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June 6, 2025

**VIA ELECTRONIC FILING**

The Honorable Debbie-Anne A. Reese  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

**Re: Midcontinent Independent System Operator, Inc.  
Revisions to the Open Access Transmission, Energy and Operating Reserve Tariff  
Expedited Resource Addition Study Filing  
Docket No. ER25-\_\_\_\_-000**

Dear Secretary Reese:

The Midcontinent Independent System Operator, Inc. ("MISO") submits this filing<sup>1</sup> to revise its Open Access Transmission, Energy and Operating Reserve Markets Tariff ("Tariff")<sup>2</sup> to amend its Attachment X, Generator Interconnection Procedures ("GIP").<sup>3</sup> MISO is grateful for the Commission's feedback on its previous ERAS proposal and for identifying the concerns it had with MISO's proposal.<sup>4</sup> MISO has taken this feedback and refined its original ERAS proposal to address these concerns and others that were shared by stakeholders. MISO now proposes a refined Expedited Resource Addition Study ("ERAS") process that addresses the concerns identified by the Commission and provides an improved framework for the accelerated study of generation projects that can address urgent resource adequacy and reliability needs in the near term.

This filing includes the authority and applicable procedures to implement the refined ERAS process, including how Interconnection Customers claim a new Interconnection Request will meet

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<sup>1</sup> MISO makes this filing pursuant to Section 205 of the Federal Power Act ("FPA"), 16 U.S.C. § 824d, and Part 35 of the regulations of the Federal Energy Regulatory Commission ("FERC" or "Commission"), 18 C.F.R. § 35.1, *et seq.*

<sup>2</sup> All capitalized terms not otherwise defined herein shall have the meaning as set forth in the Tariff or the proposed revisions, as applicable.

<sup>3</sup> The GIP are set forth in Attachment X of the Tariff.

<sup>4</sup> *See Midcontinent Independent System Operator, Inc.*, 191 FERC ¶ 61,131 at P 203 (2025) ("ERAS Order").

a resource adequacy and/or reliability need and how the Relevant Electric Retail Regulatory Authority (“RERRA”)<sup>5</sup> will submit a verification to MISO that states either: (i) the new, incremental load addition claimed by the Interconnection Customer is valid and not otherwise included in a resource plan or other process under the RERRA’s purview or (ii) that the Generating Facility will address a resource adequacy deficiency. As the Commission recognized in the ERAS Order, “it is appropriate for RERRAs to communicate to MISO their resource adequacy and reliability needs, as well as their support for including interconnection requests in the ERAS process, to ensure that the RERRA’s needs are met in a timely fashion.”<sup>6</sup> Moreover, the Federal Power Act (“FPA”) and FERC precedent both recognize the exclusive authority of state regulators and their jurisdictional utilities to plan for adequate generation resources to address resource adequacy needs within their jurisdictional footprints.<sup>7</sup> ERAS responds to this authority and current needs. It enables the timely development of generation that must be online in the near term to address claimed resource adequacy and/or reliability needs—needs for which the current processing time of MISO’s queue presents a barrier to solution availability.

ERAS also complements the recent submittals implementing a proposed cap in the queue as well as other improvements to the GIP including increased milestone payments, withdrawal penalty requirements, and Site Control rules.<sup>8</sup> The Cap and GIP Improvement proposals were focused on longer-term improvements to the queue, while ERAS is focused on short-term improvements that will facilitate the addition of necessary resources in the MISO footprint. MISO has made refinements to its original ERAS proposal to include a total project cap and to structure this cap in a way that accommodates the needs of retail choice states and independent power producers (“IPPs”). MISO has also added several requirements to promote a tighter connection between proposed ERAS projects and the resource adequacy needs that the projects will address. The supporting evidence convincingly demonstrates that the refined ERAS process will provide the expedited path forward to bring projects online to meet near-term needs and will address certain challenges posed by the rapidly growing size of the queue.<sup>9</sup>

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<sup>5</sup> A RERRA is defined as “[a]n entity that has jurisdiction over and establishes prices and/or policies for providers of retail electric service to end-customers, such as the city council for a municipal utility, the governing board of a cooperative utility, the state public utility commission or any other such entity.” MISO, FERC Electric Tariff, Module A, § 1.R (72.0.0).

<sup>6</sup> ERAS Order at P 203.

<sup>7</sup> 16 U.S.C. § 824 (1976); FERC has recognized that state-federal “bifurcated framework respects the jurisdictional boundaries of the FPA while recognizing the states’ historical role in ensuring resource adequacy.” *Cxa La Paloma, LLC*, 165 FERC ¶ 61,148 at P 70 (2018).

<sup>8</sup> See *Midcontinent Independent System Operator, Inc.*, 186 FERC ¶ 61,054 (2024); *Midcontinent Independent System Operator, Inc.*, “Revisions to the Open Access Transmission, Energy and Operating Reserve Tariff Queue Cap Proposal and Exemptions to the Queue Cap Proposal,” Docket No. ER25-507-000 (November 21, 2024).

<sup>9</sup> See Prepared Direct Testimony of Andrew Witmeier (“Witmeier Testimony”), attached at Tab C.

MISO requests an effective date of August 6, 2025, for this filing. Moreover, given this filing is built on a proposal already reviewed extensively by stakeholders and the Commission and is tailored to address the Commission's guidance, MISO requests the Commission issue an order on this filing expeditiously by July 22, 2025. The grant of this request, in light of the totality of the factors, is reasonable. It will also be limited to the instant request here to effectuate a needed process. Given the resource adequacy and reliability needs identified below, MISO needs to implement that process as soon as possible. An expedited order will afford Interconnection Customers the certainty needed to prepare their Interconnection Requests to submit for the first ERAS Quarterly Study Period, which starts on September 2, 2025. The additional two weeks will provide material value to Interconnection Customers. Additionally, to enable the Commission's expedited decision making, MISO requests that the Commission establish a ten-day comment period for this filing, with June 16, 2025, as the comment date.

MISO acknowledges the expedited action requested places pressure on stakeholders and the Commission alike. This expedited treatment will ensure that Interconnection Customers have sufficient time to prepare for ERAS and have certainty that the proposed changes can be implemented to bring the ERAS process into alignment with other standard MISO practices and processes and to ensure that it will be in place prior to the September 2, 2025 Quarterly Study Period kickoff date for ERAS.<sup>10</sup> Just as this filing has been turned in a matter of a few weeks since receiving the Commission's guidance in the ERAS Order, the time afforded to MISO and Interconnection Customers by two weeks, assuming Commission acceptance, is time well spent to move this proposed process forward effectively. The requested order and effective dates will ensure that the proposed changes are implemented to accelerate the study of projects to address the looming resource adequacy and reliability needs in the MISO footprint in the next few years.

## **I. EXECUTIVE SUMMARY**

### **A. Summary of MISO's First ERAS Filing**

On March 17, 2025, MISO submitted its original filing with proposed revisions to Attachment X in the MISO Tariff, to establish the Expedited Resource Addition Study (ERAS) process to provide a framework for the expedited study of interconnection requests to address urgent resource adequacy and reliability needs in the near term.<sup>11</sup> MISO proposed that an ERAS Interconnection Request be required to demonstrate that it would meet an identified resource adequacy and/or reliability need by providing both: (1) a written notification from the RERRA that

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<sup>10</sup> Witmeier Testimony at 7:6-10.

<sup>11</sup> *Midcontinent Independent System Operator, Inc.*, "Revisions to the Open Access Transmission, Energy and Operating Reserve Tariff Expedited Resource Addition Study Filing," Docket No. ER25-1674-000 (March 17, 2025) ("ERAS Transmittal Letter").

the project should be studied through ERAS; and (2) an executed agreement evidencing that the ERAS project was intended to be used by the entity with the claimed resource adequacy or reliability need. MISO also proposed that ERAS have strict eligibility requirements including: shorter commercial operation date (COD) requirements, greater (100%) site control requirements, higher application fee and milestone payments, and a requirement to pay for all network upgrades documented in the EGIA, even if the Interconnection Customer withdraws its request after the EGIA is executed or filed unexecuted with the Commission. Finally, MISO proposed that the original ERAS process would sunset by the end of 2028.

On May 16, the Commission issued an order rejecting MISO's proposed Tariff revisions and provided guidance on the proposed ERAS process.<sup>12</sup> The Commission found that MISO's ERAS proposal was not "a just and reasonable and not unduly discriminatory or preferential approach for addressing MISO's stated resource adequacy and reliability needs."<sup>13</sup> The Commission identified two issues with the ERAS framework: (1) that there was "no limit on the number of projects that could be entered into the ERAS process,"<sup>14</sup> and (2) "the proposal does not sufficiently describe how the ERAS process is sufficiently targeted to study only interconnection requests needed to meet the anticipated shortfall in generating capacity described by MISO."<sup>15</sup> The Commission also recognized that it was "appropriate for RERRAs to communicate to MISO their resource adequacy and reliability needs, as well as their support for including interconnection requests in the ERAS process, to ensure that the RERRA's needs are met in a timely fashion."<sup>16</sup> Each of the Commissioners also filed individual statements urging MISO to revise and refile its ERAS proposal.<sup>17</sup>

MISO is grateful for the Commission's guidance on how to better craft its ERAS proposal and appreciates the recommendations made within the order. MISO has worked swiftly to develop a refined ERAS process tailored to address the Commission's concerns, other issues raised by stakeholders, and one that can withstand legal review. MISO is now proposing a refined ERAS process that can be implemented by September 2, 2025 to quickly address the looming resource adequacy and reliability needs that it highlighted in its original ERAS filing.

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<sup>12</sup> ERAS Order at P 1.

<sup>13</sup> *Id.* at P 197.

<sup>14</sup> *Id.* at P 199.

<sup>15</sup> *Id.* at P 201.

<sup>16</sup> *Id.* at P 203.

<sup>17</sup> ERAS Order at P 3 (Comm'r Christie, dissenting); at P 6 (Comm'r Rosner, concurring); and at P 8 (Comm'r See, concurring).

## **B. Growing Resource Adequacy Concerns**

The energy industry continues to change rapidly. Urgent resource adequacy and reliability challenges are arising because of continued electrification efforts, a resurgence in manufacturing, an unexpected demand for energy-hungry data centers to support artificial intelligence, the growing preference for low or no carbon emission resources, and the accelerated early retirement of generation.<sup>18</sup> These combined factors are driving resource adequacy and reliability concerns across the country and are resulting in a complex policy landscape. Additional changes and improvements must be made to MISO's processes to enable it to meet these urgent and important needs.

Several surveys and forecasts offer perspectives demonstrating the urgency for MISO to address significant resource adequacy needs in its footprint that are compounded by the addition of unexpected large spot loads. First, MISO's Reliability Imperative Report explained, "[i]n light of the urgent and complex risks to electric reliability in the MISO region, utilities, states and MISO must all act with more urgency and more coordination to avoid a looming mismatch between the pace of adding new resources and the retirement of older resources in the MISO region."<sup>19</sup>

MISO also works with the Organization of MISO States ("OMS") to produce the OMS-MISO Survey which in 2024 "reinforce[d] near-term risks and highlights key uncertainties impacting resource adequacy in the MISO region," and also "illustrate[d] a strong sensitivity to the pace of new capacity additions."<sup>20</sup> The 2025 OMS-MISO Survey will be published on the same day as this filing and further "reinforces near-term risks and highlights key uncertainties impacting resource adequacy."<sup>21</sup> In fact, one of the key takeaways from the 2025 survey is that

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<sup>18</sup> MISO recently highlighted how "[t]he expansion of data centers, fueled by AI and cloud-based applications, will raise MISO's energy demand by 149-241 TWh by 2044", "the growth of EVs, driven by federal incentives and declining battery costs, is projected to add 54-91 TWh of demand by 2044, with rapid adoption between 2030-2040", "the electrification of oil and gas industries and reshoring efforts are expected to increase energy demand by 21-105 TWh by 2044", and how "federal and state policies are driving electrification of heating systems and appliances, increasing energy demand by 36-43 TWh by 2044." Long-Term Load Forecast, at 4, December 2024, available at: [https://cdn.misoenergy.org/MISO%20Long-Term%20Load%20Forecast%20Whitepaper\\_December%202024667166.pdf](https://cdn.misoenergy.org/MISO%20Long-Term%20Load%20Forecast%20Whitepaper_December%202024667166.pdf).

<sup>19</sup> See *MISO's Response to the Reliability Imperative* (updated January 2023), available at: <https://cdn.misoenergy.org/MISO%20Response%20to%20the%20Reliability%20Imperative504018.pdf>.

<sup>20</sup> See *2024 OMS-MISO Survey Results* (Updated June 2024), available at: <https://cdn.misoenergy.org/OMS%20MISO%20Survey%20Results%20Workshop%20Presentation628355.pdf>.

<sup>21</sup> *Id.* at 2.

“[r]esource adequacy risk is intensifying.”<sup>22</sup> Similarly, NERC’s 2024 Long-Term Reliability Assessment projected that MISO will experience a 4.7 GW shortfall by 2028 if the current expected generator retirements occur.<sup>23</sup> NERC explained that MISO’s resource additions were not keeping up with generator retirements and demand growth. As a result, NERC designated MISO’s footprint as “high risk” for falling below established resource adequacy criteria in the next five years.<sup>24</sup> Collectively, these surveys and forecasts demonstrate that MISO *must* address resource adequacy and reliability needs in the next five years and that an accelerated interconnection study process must be established to address time-critical challenges. Compounding these generation challenges is the surge in load growth described above coming from economic development, a resurgence in manufacturing, increasing electrification, and data centers and other large load additions. As the Commission Staff’s 2025 Summer Assessment stated: “Currently, the size and speed with which data centers and crypto mining facilities can be constructed and connect to the grid presents unique challenges for demand forecasting and planning. This increase in demand is currently challenging utilities to accelerate infrastructure upgrades and energy resource deployment and to reconsider scheduled resource retirements to maintain grid reliability.”<sup>25</sup> As highlighted in MISO’s presentation to the System Planning Committee of the MISO Board of Directors, MISO is indeed seeing a significant increase in load growth as well as transmission projects related to load growth over the last year, further evidencing growing demand and challenges in the MISO region.<sup>26</sup> Finally, FERC staff’s recent 2025 Summer Assessment found possible reliability challenges in several RTO regions including MISO during extreme summer conditions.<sup>27</sup>

### C. Summary of the ERAS Process

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<sup>22</sup> 2025 OMS-MISO Resource Adequacy Survey Results, Fact Sheet, available at: <https://cdn.misoenergy.org/2025%20OMS-MISO%20Survey%20Fact%20Sheet702641.pdf>.

<sup>23</sup> See NERC’s 2024 Long-Term Reliability Assessment (published December 2024), available at: [https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC\\_Long%20Term%20Reliability%20Assessment\\_2024.pdf](https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_Long%20Term%20Reliability%20Assessment_2024.pdf).

<sup>24</sup> *Id.* at 6.

<sup>25</sup> 2025 Summer Energy Market and Electric Reliability Assessment, May 15, 2025, <https://www.ferc.gov/news-events/news/ferc-releases-2025-summer-assessment>.

<sup>26</sup> Reliability Imperative: Transmission Evolution, System Planning Committee of the Board of Director at 6-7, June 10, 2025, [https://cdn.misoenergy.org/20250610%20System%20Planning%20Committee%20of%20the%20BOD%20Item%2005%20Reliability%20Imperative\\_Transmission%20Evolution701586.pdf](https://cdn.misoenergy.org/20250610%20System%20Planning%20Committee%20of%20the%20BOD%20Item%2005%20Reliability%20Imperative_Transmission%20Evolution701586.pdf).

<sup>27</sup> 2025 Summer Energy Market and Electric Reliability Assessment, May 15, 2025, <https://www.ferc.gov/news-events/news/ferc-releases-2025-summer-assessment>.

While developing the original ERAS, MISO engaged with stakeholders on a regular basis to solicit feedback and to discuss suggested changes to the proposal. As described in more detail below, MISO participated in numerous meetings with stakeholders including official committee meetings, ERAS-specific workshops, and small-group meetings with individual stakeholder groups. Based on stakeholder feedback obtained from these meetings and discussions, MISO made significant revisions to its first ERAS proposal presented to stakeholders including changing the mechanics of how a RERRA would notify MISO that a project is suitable for ERAS, establishing the sunset date, and determining some of the eligibility requirements for ERAS participation. OMS provided significant input on the appropriate method for states or RERRAs to notify MISO of projects suitable for MISO's first ERAS proposal. That engagement and feedback helped MISO produce its original ERAS filing to the Commission in March of this year. Following the Commission's order, MISO developed a proposed method for RERRAs to establish a connection between a proposed ERAS project and a resource adequacy deficiency or a spot load addition to address the Commission's guidance and shared its proposed method with individual states and OMS. MISO directly engaged in discussions to address any concerns and this resulting filing is responsive to these conversations and represents a significant step forward towards improving the interconnection process in MISO and enabling it to meet state and RERRA needs. MISO has developed this refiling on an expedited basis and MISO has shared updates with our states to keep them informed of MISO's direction as it finalized the refinements to the original ERAS proposal. While states recognized that a full review of the filing will be required to indicate their support, MISO believes many are generally supportive of the framework and recognize the urgency of having an expedited review process in place.

In preparing this filing and refining the ERAS process as described further below, MISO took substantive steps to mitigate the impact of these proposed changes on Interconnection Requests in the queue. MISO remains committed to reducing its general interconnection review period to one year and is utilizing industry-leading techniques, processes, and IT systems to achieve that goal. MISO's recent GIP Improvement and Cap filings were implemented to facilitate this process, but reaping the benefits of those changes will take longer than is necessary to address the looming resource adequacy and reliability needs faced by the states now. ERAS is a unique process that will enable a limited and now capped number of projects to address resource adequacy and reliability needs in the short term. The ERAS process remains structured to insulate projects in the queue from the negative impacts or cost shifts as the result of projects either entering ERAS or leaving the generator interconnection queue for ERAS. As such, the consideration of ERAS projects will not raise costs for or otherwise impact any of the projects currently in the queue.

#### **D. Changes and Refinements to the ERAS Process**

The refined Expedited Resource Addition Study ("ERAS") is MISO's answer to addressing the resource adequacy and reliability needs in the near-term. ERAS is a unique process which recognizes that the responsibility for providing grid reliability and resource adequacy in the MISO region is shared by Load Serving Entities ("LSEs"), the states, and MISO. Projects that enter ERAS—a process separate from the standard Generator Interconnection Queue—will be studied

serially in each ERAS quarterly study period and will be granted an EGIA within 90 days to facilitate new generation to come online in the short-term to meet valid new, incremental load additions and identified resource adequacy deficiencies. Since the original ERAS filing, MISO has worked to implement necessary changes to the proposal to better align the process with the timeline that is needed to address the looming resource adequacy and/or reliability needs. First, MISO is now proposing to implement a cap on the number of projects that can participate in ERAS. Second, MISO is requiring a stronger demonstration of a connection between the proposed project and the resource adequacy and/or reliability need that warrants its inclusion in ERAS as demonstrated by a verification from the relevant RERRA. The proposed ERAS project and the resource adequacy and/or reliability need must also be within the same Local Resource Zone. Finally, MISO is also proposing Tariff language to incorporate the retail choice states – Illinois and parts of Michigan – into the ERAS process.<sup>28</sup> MISO’s goal with developing and refining ERAS is to quickly, efficiently, and effectively craft a process that can manage these looming needs while also addressing concerns raised in the Commission’s order. The figure below highlights in red font what features of the original ERAS filing have been refined and added to this proposal.

**Figure 1: Refined ERAS Requirements Comparison**

| ERAS requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Technical requirements                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• D1 = non-refundable \$100,000</li> <li>• D2 = \$50,000 - \$640,000 (dependent on project size)</li> <li>• M2 = \$24,000/MW</li> <li>• 100% site control (site and POI)</li> <li>• Service type: NRIS</li> <li>• <b>RERRA Verification</b></li> <li>• Executed agreement/PPA/BTA</li> <li>• <b>COD no later than 3 years from 2025/2026 submission</b></li> <li>• <b>Sunset on the earlier of 68 completed ERAS Interconnection Request studies or August 31, 2027</b></li> </ul> | <ul style="list-style-type: none"> <li>• <b>No more than 68 total ERAS projects</b> <ul style="list-style-type: none"> <li>• 8 project carve out for restructured states</li> <li>• 10 project carve out for IPPs with agreements with entities other than LSEs</li> </ul> </li> <li>• <b>No more than 10 projects studied per quarter</b></li> <li>• <b>Interconnection Service must not exceed 150% of the identified MW need</b></li> <li>• <b>Project and RA/reliability need must be within the same Local Resource Zone</b></li> <li>• <b>IC must identify specific load addition and/or RA deficiency the project will address (MW value, location, etc.) – this information will be made public</b></li> </ul> | <ul style="list-style-type: none"> <li>• Synchronization Date</li> <li>• Commercial Operation Date</li> <li>• Interconnection Facilities In-Service Date</li> <li>• Service Type (NRIS)</li> <li>• Generator Output</li> <li>• Primary Fuel Type</li> <li>• Generator Manufacturer &amp; Model Number</li> <li>• Library Stability Model</li> <li>• One-Line Diagram</li> <li>• Generating Facility Data</li> <li>• Step-Up Transformer Data</li> </ul> |

Working together, MISO, the states, and other stakeholders established numerous guardrails around projects that could participate in the original ERAS to ensure that the process is used as intended, that only truly necessary and certain projects can enter ERAS, and to mitigate any impact on projects currently in the general interconnection queue. These guardrails continue to include stringent eligibility requirements such as demonstrating 100% site control for the Interconnection Customer’s Interconnection Facilities, establishing a three year due date for Commercial Operation Dates (“COD”) based on submission date, requiring a non-refundable deposit of \$100,000, a \$24,000/MW milestone payment, all of which are due upon application, and agreeing to paying for all necessary Network Upgrades per the executed GIA. MISO is also

<sup>28</sup> See Tab A Redlines, Attachment X, Section 3.9.1.1(iii).



proposing several changes to the Interconnection Request application to ensure that the necessary information is supplied by the Interconnection Customer when applying to participate in ERAS.

The refined ERAS framework continues to incorporate the role of states and RERRAs but requires a written verification from the RERRA that the proposed project will address a load addition not already planned for or an identified resource adequacy deficiency within its jurisdictional footprint. The Commission has previously recognized that “MISO’s resource adequacy construct is designed specifically to complement state mechanisms.”<sup>29</sup> MISO continues to support “the independent authority of state regulators for resource adequacy and facilitates resource adequacy goals with state regulators that have decision-making authority over the amount and types of resources that are necessary to meet shared objectives.”<sup>30</sup> The ERAS process still provides a vehicle for the RERRA to verify to MISO that there is a valid, new incremental load addition that is not incorporated in relevant plans or that the proposed Generating Facility will address an identified resource adequacy deficiency. While this verification is not *confirmation* by the state/RERRA of a project’s approval,<sup>31</sup> and should not be viewed as such, it does directly connect the proposed ERAS project with a specific load need. This, along with the requirement that the load need and the ERAS project must be located in the same LRZ region, better tailors the ERAS process to the resource adequacy and reliability needs.

This refined ERAS proposal also is in alignment with the open access principles established by the Commission and consistent with the goals of Order Nos. 2003<sup>32</sup> and 2023.<sup>33</sup> Given the dramatic changes the electric industry is undergoing and the increasing demand for electricity expected in the MISO footprint, there is great urgency to establish a process that enables “shovel ready” projects addressing near term resource adequacy and/or reliability needs to be completed

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<sup>29</sup> *Midcontinent Indep. Sys. Operator, Inc.*, 170 FERC ¶ 61,215 at P 118 (2020) (citing MISO, FERC Electric Tariff, Module E-1, § 68A (34.0.0). MISO’s Module E-1 mandatory requirements for Market Participants serving Load “recognize and are complementary to the reliability mechanisms of the states” and nothing in Module E-1 “affects existing state jurisdiction over the construction of additional capacity or the authority of the states to set and enforce compliance with standards for adequacy.”

<sup>30</sup> *Id.*

<sup>31</sup> As will be further explained Section III.A.2, *infra*, even if a project participates in the ERAS process, regulatory review and approval of the project by the state/RERRA is still required.

<sup>32</sup> *See Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, FERC Stats. & Regs. ¶ 31,146 (2003), *order on reh’g*, Order No. 2003-A, FERC Stats. & Regs. ¶ 31,160, *order on reh’g*, Order No. 2003-B, FERC Stats. & Regs. ¶ 31,171 (2004), *order on reh’g*, Order No. 2003-C, FERC Stats. & Regs. ¶ 31,190 (2005), *aff’d sub nom. Nat’l Ass’n of Regulatory Util. Comm’rs v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007), cert. denied, 552 U.S. 1230 (2008).

<sup>33</sup> *See Improvements to Generator Interconnection Procs. & Agreements*, Order No. 2023, 184 FERC ¶ 61,054, *order on reh’g*, 185 FERC ¶ 61,063 (2023), *order on reh’g*, Order No. 2023-A, 186 FERC ¶ 61,199, *errata notice*, 188 FERC ¶ 61,134 (2024).

in a short period of time. As revised to address Commission guidance, ERAS provides that capability and will facilitate the quick completion of projects necessary to address resource adequacy and/or reliability needs in the next few years. The package presented in this filing is just and reasonable and supported by testimony and other evidence, and the Commission should approve it promptly to ensure that MISO can initiate the ERAS process as expeditiously as possible.

## II. DEVELOPING THE ERAS PROCESS

### A. Overview of MISO'S Generator Interconnection Process

In an effort to constantly improve its generator interconnection process, MISO implemented significant changes to the process over the last two years. First, in 2023, MISO submitted a proposal to make certain improvements to the interconnection process, which involved increasing milestone payments, establishing withdrawal penalty requirements, and implementing certain Site Control rules.<sup>34</sup> Second, in 2024, MISO submitted its Queue Cap Proposal, which established a cap on the total MW value of Interconnection Requests entering a given study cluster.<sup>35</sup> These changes to the queue were made primarily to address the unprecedented challenges MISO faced when evaluating the feasibility and certainty of a large number of projects proposing to connect to the MISO Transmission System. These proposals were necessary to address both the quality and quantity of interconnection requests – thus they were aimed at reducing speculative projects in the queue, making the current queue process more efficient, and reducing the causes of delay.

MISO's first cap proposal, submitted in 2023, included an exemption to the cap for any interconnection requests involving a proposed generation facility that was submitted by a RERRA.<sup>36</sup> The RERRA exemption was proposed in recognition that some proposed Generating Facilities may be required by one or more MISO States or other jurisdictional entities to meet their load serving obligations. As MISO explained in its filing, "[p]roviding this exemption is consistent with the cooperative federalism principles underlying the FPA and placing the primary responsibility over resource adequacy on state regulators."<sup>37</sup> Moreover, the Organization of MISO

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<sup>34</sup> See *Midcontinent Indep. Sys. Operator, Inc.*, Docket No. ER24-340-000, MISO's Transmittal Letter (filed Nov. 3, 2023) ("Queue Reform Filing").

<sup>35</sup> See *Midcontinent Indep. Sys. Operator, Inc.*, Docket No. ER25-507-000, MISO's Transmittal Letter (filed Nov. 21, 2024) ("2024 Cap Filing, Transmittal Letter").

<sup>36</sup> See *Midcontinent Indep. Sys. Operator, Inc.*, Docket No. ER24-341-000, MISO's Transmittal Letter (filed Nov. 3, 2023) ("2023 Cap Filing, Transmittal Letter").

<sup>37</sup> 2023 Cap Filing, Transmittal Letter at 16.

States (“OMS”) supported the exemption and proposed a procedure for a RERRA to request that an Interconnection Request associated with a project be exempt from the cap.<sup>38</sup> Ultimately, FERC denied MISO’s request to approve the 2023 Queue Cap Proposal with the RERRA exemption.<sup>39</sup>

MISO’s second Cap Proposal, submitted in 2024, did not include the RERRA exemption. In the testimony, MISO explained that in lieu of the exemption, it would be proposing the ERAS process to “expedite the approval of new generation needed to address state resource adequacy goals.”<sup>40</sup> MISO recognized that the RERRA exemption was attempting to address a distinct queue issue that warranted its own proposal to facilitate the approval process of new generation needed to address resource adequacy.<sup>41</sup> In the 2024 Cap Proposal, MISO committed to working on addressing the needs of RERRAs through a new process that would be developed with stakeholders and that would more comprehensively conduct the process for new generation that was addressing resource adequacy and reliability needs.<sup>42</sup>

MISO’s original ERAS proposal, submitted in March of 2025, aimed at addressing short-term resource adequacy and reliability needs.<sup>43</sup> The previously proposed ERAS process required enhanced commitments from the Interconnection Customer including 100% Site Control and full commitment to pay for all the costs of identified Network Upgrades per the executed EGIA even if the project is later withdrawn and the EGIA terminated.<sup>44</sup> MISO also required ERAS projects to have written notification from a RERRA indicating that it should be studied in the ERAS process. MISO originally planned to offer 14 cycles of ERAS studies prior to its sunset in 2028. In May 2025, the Commission issued an order rejecting MISO’s proposal and identified two main problems with the initial ERAS filing: 1) there was no limitation on the number of projects that could participate; and 2) the RERRA notification was insufficient to establish a connection between the proposed project and the identified resource adequacy and/or reliability need. The Order also included helpful guidance for MISO to follow when refining its proposal.<sup>45</sup>

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<sup>38</sup> See *Midcontinent Indep. Sys. Operator, Inc.*, Docket No. ER24-341-000, Comments of Organization MISO States (“OMS”) in support of Midcontinent Independent System Operator, Inc.’s November 3, 2023 (filed Dec. 4, 2023).

<sup>39</sup> See *Midcontinent Indep. Sys. Operator, Inc.*, 186 FERC ¶ 61,054 (2024), *order on reh’g*, 187 FERC ¶ 61,031.

<sup>40</sup> 2024 Cap Filing, Tab C: Prepared Direct Testimony of Andrew Witmeier at 5:2-3.

<sup>41</sup> See *id.* at 29:10-21.

<sup>42</sup> *Id.* at 30:2-7.

<sup>43</sup> *Midcontinent Independent System Operator, Inc.*, “Revisions to the Open Access Transmission, Energy and Operating Reserve Tariff Expedited Resource Addition Study Filing,” Docket No. ER25-1674-000 (March 17, 2025) (“ERAS Transmittal Letter”).

<sup>44</sup> ERAS Original Filing, Witmeier Testimony at 41:4 –11.

<sup>45</sup> ERAS Order at P 199.

Following this feedback, MISO has made several refinements to its original ERAS proposal. First, MISO is now capping the number of projects that can participate in ERAS to 68 projects total—with a carve out of 8 projects that may only be submitted by retail states for resource adequacy deficiencies and 10 projects that may only be submitted by independent power producers (“IPPs”).<sup>46</sup> In addition, MISO is capping the number of projects that can participate in each ERAS Quarterly Study Period to 10 projects no matter if they are proposed by retail states, IPPs, or other applicants.<sup>47</sup> MISO also changed the RERRA requirement to include a verification instead of a notification to better establish a nexus between the proposed ERAS project and the identified resource adequacy and/reliability need. MISO is now requiring that the ERAS project be within the same LRZ as the load it is addressing unless the project applicant can demonstrate that the use of a Generating Facility not in the same LRZ was included in a resource filing or other submission made to the relevant RERRA.<sup>48</sup> A project applicant for ERAS must now supply three documents: 1) the RERRA verification; 2) the off-taker agreement; and 3) the Interconnection Request for ERAS that contains additional information requirements. MISO believes that this documentation will serve to demonstrate that the proposed ERAS project is targeted at serving a specific resource adequacy deficiency and/or reliability need and will serve to identify the parties involved in the agreement. The refined ERAS process will only be offered until August 31, 2027, or when 68 ERAS Interconnection Request studies have been completed, whichever comes first.<sup>49</sup> And all ERAS projects must be completed and commercially operable three years after their submission date.<sup>50</sup>

ERAS is MISO’s short-term solution to the resource adequacy and reliability problems that it is facing in its footprint. The revised proposal filed herein is temporary but critically necessary as a bridge to ensure time-sensitive new resource adequacy needs will be met while MISO works with its stakeholders to reduce the processing time of its queue by 2028. By necessity, the process is flexible enough to be utilized by all RERRAs in MISO’s footprint that need such a tool and by any type of Interconnection Customer with a qualifying project. The stringent entry requirements, the newly instituted project cap, the modified RERRA verification, the additional application requirements, and robust process safeguards make ERAS a process that is flexible enough while

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<sup>46</sup> Witmeier Testimony at 4:3-9.

<sup>47</sup> *Id.* at 4:5-6, 17:3-5, 27:8-15.

<sup>48</sup> *Id.* at 4:6-15.

<sup>49</sup> Witmeier Testimony at 49:6-15. This time limitation also applies to the retail state projects. If the retail states do not submit their allotted eight projects by the sunset date, the ERAS process will still close on August 31, 2027.

<sup>50</sup> Witmeier Testimony at 47:14-17. One exception to this rule is if the project has been deferred to a future ERAS quarterly study cycle.

remaining narrowly scoped and appropriately bounded to prevent misuse or negative impacts for projects in the MISO queue.

## **B. Imminent Resource Adequacy and Reliability Concerns**

Like the other RTOs and ISOs, MISO's resource adequacy concerns are driven by unexpected but significant load growth associated with large data center development, the accelerated retirement of baseload generation due to state and federal policies, a resurgence of manufacturing, and delays in the generator interconnection queue caused by speculative projects, late-stage dropouts, supply chain delays, and permitting or financing issues. What is unique to MISO as compared to other RTOs and ISOs is that it is almost completely comprised of vertically integrated utilities who are responsible for serving load within their jurisdictions. The LSEs are accountable for supplying their customers with consistent power and must ensure that they can address resource adequacy needs in a time-sensitive manner. Thus, MISO must partner *with* the states and their RERRAs and LSEs to provide a way for projects that have been identified as necessary for resource adequacy or reliability needs to be completed quickly. MISO's outlook on resource adequacy within its footprint is supported by several studies that are completed on a regular basis. As these studies demonstrate, the load growth outlook has changed dramatically in the past few years due to unforeseen changes in the electricity industry.

First, MISO's Reliability Imperative Report found that the transition towards decarbonization is "posing material, adverse challenges to electric reliability."<sup>51</sup> The Report recognized that major industry trends are "simultaneously changing the conditions of the system" and that demand for electricity is increasing to meet new needs, which is disrupting traditional load patterns.<sup>52</sup> MISO noted that over the last decade, surplus reserve margins in MISO have been exhausted through load growth and unit retirements.<sup>53</sup> "While MISO has implemented several reforms to help avert near-term risk, more work is urgently needed to mitigate reliability concerns in the coming years."<sup>54</sup> MISO also published the MISO Futures Report, which provides the analysis of three scenarios to help MISO envision a set of possible resource adequacy outcomes up to 20 years in the future. The scenarios establish a range of economic, policy, and technological possibilities including load growth, electrification, decarbonization, renewable energy levels,

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<sup>51</sup> See *MISO's Response to the Reliability Imperative*, Executive Summary (updated February 2024) at 1, <https://cdn.misoenergy.org/Executive%20Summary%202024%20Reliability%20Imperative%20report%20Feb.%2021%20Final631825.pdf>.

<sup>52</sup> *Attributes Roadmap, A Reliability Imperative Report* (December 2023) at 6, <https://cdn.misoenergy.org/2023%20Attributes%20Roadmap631174.pdf>.

<sup>53</sup> See *MISO's Response to the Reliability Imperative*, (updated February 2024) at 6, ("Reliability Imperative"), <https://cdn.misoenergy.org/2024%20Reliability%20Imperative%20report%20Feb.%2021%20Final504018.pdf?v=20240221104216>.

<sup>54</sup> *Id.*

generator retirements, fuel prices, and generation capital costs. While MISO originally published the Series 1 analysis in 2022, due to the dramatic changes in the energy industry even in the last couple of years, MISO was required to update the outlook as its “members’ and states’ plans were refined, new legislation and policies took effect, and prices, along with incentives for various resources, saw significant changes.”<sup>55</sup> As a result of these changes, MISO was required to revise the Series 1 Futures earlier than anticipated with updated data “to reflect a significant fleet transition over the next 20 years.”<sup>56</sup> Both Futures Reports demonstrated the immediate need to add almost twice the generation that MISO currently has online, and that rate is increasing as a result of the unprecedented load growth.<sup>57</sup>

Second, the annual OMS-MISO Survey indicated similar results in 2024, “reinforc[ing] near-term risks and highlight[ing] key uncertainties impacting resource adequacy in the MISO region.”<sup>58</sup> The survey compiles information about new resources that the utilities and states plan to build and about any older assets they intend to retire in the coming years. The 2024 survey finds that “resource adequacy risks could grow over time across all seasons, absent increased new capacity additions and actions to delay capacity retirements.”<sup>59</sup> The survey noted that “significant economic development activities are spurring new, large spot-load additions (e.g., data centers, onshoring of manufacturing, new industrials) and increasing pressures on resource adequacy and requiring improved abilities for the timely addition of new resources.”<sup>60</sup> EPRI, Grid Strategies, and MISO also anticipate strong long-term load growth that is driven by data centers, manufacturing, increased cooling demands, electric vehicles, and cryptocurrency.<sup>61</sup> Grid Strategies even noted “[o]ver the past year, grid planners nearly doubled the 5-year load growth

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<sup>55</sup> *MISO Futures Report Series 1A* (Nov. 1, 2023) at 2, [https://cdn.misoenergy.org/Series1A\\_Futures\\_Report630735.pdf](https://cdn.misoenergy.org/Series1A_Futures_Report630735.pdf).

<sup>56</sup> *Id.*

<sup>57</sup> *Id.* at 6-8; *see also*, *MISO Futures Report* (updated December 2021) at 4, <https://cdn.misoenergy.org/MISO%20Futures%20Report538224.pdf>.

<sup>58</sup> *See 2024 OMS-MISO Survey Results* (June 20, 2024), (“2024 OMS-MISO Survey”) at 2, <https://cdn.misoenergy.org/OMS%20MISO%20Survey%20Results%20Workshop%20Presentation628355.pdf>.

<sup>59</sup> *Id.*

<sup>60</sup> *Id.*

<sup>61</sup> *2024 OMS-MISO Survey* at 12; *see also* EPRI, *Reindustrialization, Decarbonization, and Prospects for Demand Growth* (Jul. 27, 2023), <https://www.epri.com/research/products/000000003002027930>; John D. Wilson and Zach Zimmerman, Grid Strategies, *The Era of Flat Power Demand is Over* (December 2023), (“Grid Strategies Report”), <https://gridstrategiesllc.com/wp-content/uploads/2023/12/National-Load-Growth-Report-2023.pdf>.

forecast.”<sup>62</sup> The 2024 OMS-MISO survey also noted that “immediate actions are needed to expedite the addition of new capacity, coordinate resources for new load additions, and potentially moderate the pace of resource retirements.”<sup>63</sup>

The recently published 2025 OMS-MISO Survey further “reinforces near-term risks and highlights key uncertainties impacting resource adequacy.”<sup>64</sup> The 2025 survey shows a range of outcomes but indicates that “[a]t least 3.1 GW of new resources are needed by summer 2026/27 to avoid a resource deficit, with greater needs in future years.”<sup>65</sup> The survey responses “show increasing load forecasts year-over-year and are close to the high end of MISO Long-Term Load Forecast.”<sup>66</sup> The 2025 survey noted that data centers, electric vehicles, and industry development are anticipated to have a high impact in MISO’s footprint.<sup>67</sup> Finally, the 2025 Survey recognized that there is significant uncertainty in projected resource adequacy, underscoring the urgent need for accelerated resource additions, strategic retirement planning and proactive management of increasing load growth. Using both the Regional Resource Assessment (“RRA”) and OMS-MISO Survey together provides a unique outlook for resource planners as the RRA is “a 20-year outlook based on publicly announced resource plans and policy goals” while the OMS-MISO Survey is “more focused on the near term and projects new installed capacity coming online at the pace at which resources have received interconnection agreements and come online in recent history.”<sup>68</sup>

Third, the 2024 NERC Long-Term Reliability Assessment highlighted the mounting reliability challenges faced by the energy industry caused by accelerating generator retirements, declining dispatchable resources, and escalating demand growth.<sup>69</sup> NERC noted that “[e]lectricity peak demand and energy growth forecasts over the 10-year assessment period continue to climb;

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<sup>62</sup> *Grid Strategies Report* at 3.

<sup>63</sup> *2024 OMS-MISO Survey* at 16.

<sup>64</sup> *See 2025 OMS-MISO Survey Results* at 2.

<sup>65</sup> *See 2025 OMS-MISO Resource Adequacy Survey Results*, Fact Sheet, available at: <https://cdn.misoenergy.org/2025%20OMS-MISO%20Survey%20Fact%20Sheet702641.pdf>.

<sup>66</sup> *Id.* at 10.

<sup>67</sup> *Id.* at 10.

<sup>68</sup> Comments of Todd Ramey on behalf of MISO at 9, Docket No. AD25-7, May 28, 2025 (“MISO RA Tech Conference Comments”).

<sup>69</sup> *See NERC 2024 Long-Term Reliability Assessment* (December 2024), (“NERC Report”) [https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC\\_Long%20Term%20Reliability%20Assessment\\_2024.pdf](https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_Long%20Term%20Reliability%20Assessment_2024.pdf).

demand growth is now higher than at any point in the past two decades.”<sup>70</sup> The assessment found that for 2025-2029, MISO was categorized as high risk for falling below established resource adequacy criteria.<sup>71</sup> The Report determined that resource additions were not keeping up with generator retirements and demand growth in the MISO footprint.<sup>72</sup> “MISO is at a high risk of experiencing electricity supply shortfalls beginning in Summer 2025 based on [prospective reserve margins] derived from anticipated resources and demand forecasts.”<sup>73</sup> As part of NERC’s assessment of MISO, it explained that “[i]ncreased coordination between MISO and its members will be critical to ensuring reliability throughout this resource transition of integrating new intermittent resources and continuing to retire conventional resources.”<sup>74</sup>

More recently, NERC issued its summer reliability assessment for 2025.<sup>75</sup> In its report, NERC noted that “[s]ince last summer, the aggregate of peak electricity demand for NERC’s 23 assessment areas has risen by over 10 GW – more than double the year-to-year increase that occurred between the summers of 2023 and 2024.”<sup>76</sup> NERC also identified MISO has having resource adequacy or energy risks for the summer and noted elevated “potential for insufficient operating reserves in above-normal conditions.”<sup>77</sup> NERC similarly highlighted that “[d]emand forecasts and resource data indicate that MISO is at elevated risk of operating reserve shortfalls during periods of high demand or low resource output.”<sup>78</sup> Finally, in its assessment, NERC noted that “[t]he summer of 2024 was the fourth hottest on record for both the contiguous United States and Canada, with some areas experience their hottest summer ever. The result was record electricity demand in the United States as well as in Canada.”<sup>79</sup>

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<sup>70</sup> *Id.* at 8.

<sup>71</sup> *Id.* at 6.

<sup>72</sup> *Id.* at 7.

<sup>73</sup> *Id.* at 13.

<sup>74</sup> *Id.* at 43.

<sup>75</sup> *2025 Summer Reliability Assessment*, North American Electric Reliability Corporation, May 2025, (“NERC 2025 Assessment”), [https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC\\_SRA\\_2025.pdf](https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_SRA_2025.pdf).

<sup>76</sup> *Id.* at 5.

<sup>77</sup> *Id.* at 10.

<sup>78</sup> *Id.* at 16.

<sup>79</sup> *Id.* at 50.



Finally, MISO submitted comments prior to FERC's Technical Conference on the challenge of resource adequacy in RTO and ISO regions, which was held on June 4 and 5, 2025.<sup>80</sup> In its comments, MISO noted that "the MISO region faces resource adequacy and reliability challenges due to the changing characteristics of the electric generating fleet, insufficient transmission system infrastructure, growing pressures from extreme weather, and rapid load growth."<sup>81</sup> MISO explained that it is expecting significant growth in wind and solar development: "MISO's Future Planning Scenarios estimate that while the total amount of installed electric generation will increase significantly over the next 20 years due to the rapid growth of wind and solar, the actual amount of electricity available to the system during could face a net decline of about 32 GW due to the operational characteristics of these new resources."<sup>82</sup> MISO also emphasized that "based on the current trajectory, peak electric load in the MISO region is projected to grow at a 1.6% compound annual growth rate ('CAGR'). This compares to an average 0.5% CAGR between 2009 and 2024 and threatens to outpace new electric resource additions if urgent action isn't taken."<sup>83</sup> MISO concluded that "[w]ith the pace of change confronting the electricity system, the impending influx of large data centers and the evolving generation portfolio there is heightened urgency to ensure the system remains reliable."<sup>84</sup> NERC also submitted comments in this docket noting that "growth projections of electric demand have reached heights unseen in decades, disrupting resource adequacy plans across North America."<sup>85</sup>

Collectively, these reports and comments provide a perspective demonstrating that MISO and its members need to act quickly and collaboratively to address resource adequacy and reliability needs in the MISO footprint over the next five years.<sup>86</sup> The original ERAS proposal was developed by MISO in coordination with its stakeholders to address these needs and to enable projects addressing resource adequacy and/or reliability to be brought online quickly. As NERC recognized, "MISO's resource adequacy construct complements the jurisdiction that regulatory authorities have in determining the necessary level of adequacy."<sup>87</sup> The refined ERAS proposal

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<sup>80</sup> MISO RA Tech Conference Comments at 1.

<sup>81</sup> *Id.*

<sup>82</sup> *Id.* at 2.

<sup>83</sup> *Id.* at 3.

<sup>84</sup> *Id.* at 27.

<sup>85</sup> Prefiled Statement of Jim Robb, President and CEO of North American Electric Reliability Corporation at 1, Docket No. AD25-7, May 19, 2025 ("NERC RA Tech Conference Comments").

<sup>86</sup> In fact, MISO updated the Futures Report from November 2023 used to study LRTP Tranche 2.1 because load assumptions changed so dramatically over the past year and half.

<sup>87</sup> NERC Report at 43.

further enables MISO to work *with* its members to address resource adequacy and reliability needs in the short-term.

### C. Development of ERAS and the Stakeholder Process

Between November of 2024 and March of 2025, MISO conducted an extensive stakeholder process, which included discussions, presentations, and numerous opportunities for stakeholder input at the Planning Advisory Committee (“PAC”) and also in ERAS-specific workshops. The stakeholder engagement process for MISO’s ERAS proposal went as follows:

- November 13, 2024: MISO introduced the need for ERAS at the PAC and requested formal written feedback from stakeholders.<sup>88</sup>
- November 18, 2024: MISO and stakeholders participated in a special ERAS-specific workshop in which the parties continued to discuss ERAS details. MISO sought feedback on the ERAS proposal.<sup>89</sup>
- December 6, 2024: MISO and stakeholders participated in a second ERAS-specific workshop in which the parties continued to discuss ERAS details. MISO sought feedback on the updated proposal.<sup>90</sup>
- January 22, 2025: MISO presented an updated ERAS proposal at the PAC.<sup>91</sup>
- February 19, 2025: MISO posted proposed tariff redlines, presented an updated ERAS proposal, and sought feedback at the PAC.<sup>92</sup>

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<sup>88</sup> See *Expedited Resource Adequacy Study (ERAS) Introduction* (November 13, 2024), [https://cdn.misoenergy.org/20241113%20PAC%20Item%2009%20Expedited%20Resource%20Adequacy%20Study%20\(ERAS\)%20Introduction660245.pdf](https://cdn.misoenergy.org/20241113%20PAC%20Item%2009%20Expedited%20Resource%20Adequacy%20Study%20(ERAS)%20Introduction660245.pdf).

<sup>89</sup> See *Expedited Resource Adequacy Study (ERAS) Workshop* (November 18, 2024), [https://cdn.misoenergy.org/20241118%20Expedited%20Resource%20Adequacy%20Study%20\(ERAS\)%20Workshop661622.pdf](https://cdn.misoenergy.org/20241118%20Expedited%20Resource%20Adequacy%20Study%20(ERAS)%20Workshop661622.pdf).

<sup>90</sup> See *Expedited Resource Adequacy Study (ERAS) Workshop* (December 6, 2024), [https://cdn.misoenergy.org/20241206%20Expedited%20Resource%20Adequacy%20Study%20\(ERAS\)%20Workshop665747.pdf](https://cdn.misoenergy.org/20241206%20Expedited%20Resource%20Adequacy%20Study%20(ERAS)%20Workshop665747.pdf).

<sup>91</sup> See *Expedited Resource Addition Study (ERAS) Proposal* (January 22, 2025), [https://cdn.misoenergy.org/20250122%20PAC%20Item%2006%20Expedited%20Resource%20Addition%20Study%20\(ERAS\)%20Proposal%20\(PAC-2023-1\).pdf673403.pdf](https://cdn.misoenergy.org/20250122%20PAC%20Item%2006%20Expedited%20Resource%20Addition%20Study%20(ERAS)%20Proposal%20(PAC-2023-1).pdf673403.pdf).

<sup>92</sup> See *Expedited Resource Addition Study (ERAS) Proposal* (February 19, 2025), [https://cdn.misoenergy.org/20250219%20PAC%20Item%2009%20Expedited%20Resource%20Addition%20Study%20\(ERAS\)%20Proposal%20\(PAC-2023-1\)679608.pdf](https://cdn.misoenergy.org/20250219%20PAC%20Item%2009%20Expedited%20Resource%20Addition%20Study%20(ERAS)%20Proposal%20(PAC-2023-1)679608.pdf).

- March 7, 2025: MISO posted updated proposed tariff redlines and presented the final ERAS proposal at a special PAC meeting scheduled to review the ERAS proposal.<sup>93</sup>
- November 2024 – March 2025: MISO staff engaged in dozens of individual calls with stakeholders to discuss what changes they think should be made to the ERAS proposal.

In addition to these more general stakeholder meetings, OMS provided significant input on the appropriate method for states or RERRAs to notify MISO of projects suitable for ERAS. Collaboration between MISO and OMS on the mechanics of the RERRA notification process and the language added to MISO's Tariff was key. The input from OMS ensures that the ERAS process can be utilized across the footprint even though the regulatory processes differ in each state.

Following the Commission's rejection of MISO's original ERAS filing and the guidance provided in its Order, MISO re-engaged with its stakeholders to develop the refined ERAS proposal as developed in herein. MISO presented its refined ERAS proposal at the May 28, 2025 PAC meeting where MISO presented the disposition of its original ERAS filing in Docket No. ER24-1674.<sup>94</sup> MISO received feedback from stakeholders following the PAC meeting through its informal feedback tool.<sup>95</sup>

#### **D. States Have Authority Over Resource Adequacy**

Due to MISO's unique organizational structure consisting of almost exclusively vertically integrated utilities, resource adequacy determinations must be made in collaboration with the states. As MISO recently explained in comments filed with FERC, "[e]very effort in pursuit of the Reliability Imperative is centered around the shared responsibility between MISO-member electricity providers, states, and MISO to maintain a reliable grid."<sup>96</sup> FERC has recognized that state authority over resource adequacy is emphasized more in MISO than in other RTOs.<sup>97</sup> MISO

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<sup>93</sup> See *Expedited Resource Addition Study (ERAS) Proposal* (March 7, 2025), [https://cdn.misoenergy.org/20250307%20PAC%20Item%2002%20Expedited%20Resource%20Addition%20Study%20\(ERAS\)%20Proposal%20\(PAC-2023-1\)684427.pdf](https://cdn.misoenergy.org/20250307%20PAC%20Item%2002%20Expedited%20Resource%20Addition%20Study%20(ERAS)%20Proposal%20(PAC-2023-1)684427.pdf).

<sup>94</sup> See *Expedited Resource Addition Study (ERAS) Next Steps* (May 28, 2025), [https://cdn.misoenergy.org/20250528%20PAC%20Item%2008%20Expedited%20Resource%20Addition%20Study%20\(ERAS\)%20Next%20Steps%20\(PAC-2023-1\)699836.pdf](https://cdn.misoenergy.org/20250528%20PAC%20Item%2008%20Expedited%20Resource%20Addition%20Study%20(ERAS)%20Next%20Steps%20(PAC-2023-1)699836.pdf).

<sup>95</sup> *Informal Feedback (2025)*, MISO, <https://www.misoenergy.org/engage/stakeholder-feedback/2025/informal-feedback-2025/>.

<sup>96</sup> MISO FERC RA Tech Conference Comments at 27.

<sup>97</sup> ERAS Order at P 203 ("We recognize that, given their authority, responsibilities, and expert assessment of their resource adequacy needs, it is appropriate for RERRAs to communicate to MISO their resource adequacy and

firmly believes that it should not be selecting ERAS projects that may address resource adequacy or reliability needs, but rather that responsibility is firmly within the states' jurisdiction. In fact, "[s]ince MISO's inception, deference has been made to the jurisdictional authority of the states and other RERRAs with respect to resource adequacy rights and responsibilities that RERRAs take seriously."<sup>98</sup>

The overlap between state and federal authority in the electric industry is governed by the Federal Power Act ("FPA").<sup>99</sup> "The Commission is a creature of statute and has jurisdiction only over those matters that Congress has given it the authority to regulate."<sup>100</sup> To that end, FERC has jurisdiction over regulating interstate "wholesale" electricity sales and transmission markets, whereas the states have jurisdiction over "retail" sales and "over facilities used for the generation of electric energy."<sup>101</sup> Under the FPA, federal and state powers are "complementary" and "like all collaborative federalism statutes, envisions a federal-state relationship marked by interdependence."<sup>102</sup> Thus, determining "resource adequacy raises 'complex jurisdictional concerns' which at times are at the 'confluence of state-federal jurisdiction.'"<sup>103</sup> At this confluence, FERC has recognized that "this bifurcated framework respects the jurisdictional boundaries of the FPA while recognizing the states' historical role in ensuring resource adequacy."<sup>104</sup> FERC has clearly stated that "a workable approach to resource adequacy does not mean that we should ignore the states' traditional role in this area."<sup>105</sup> Thus, "[w]ith the exception of the broad authority of [FERC], over the need for and pricing of electrical power transmitted in interstate commerce ... these economic aspects of electrical generation have been regulated for

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reliability needs, as well as their support for including interconnection requests in the ERAS process, to ensure that the RERRA's needs are met in a timely fashion.").

<sup>98</sup> MISO FERC RA Tech Conference Comments at 12.

<sup>99</sup> 16 U.S.C. § 824 (1976).

<sup>100</sup> *PJM Interconnection, L.L.C.*, 190 FERC ¶ 61,115 at P 66 (2025) ("Co-Location Order") (citing *Atl. City Elec. Co. v. FERC*, 295 F.3d 1, 8 (D.C. Cir. 2002)).

<sup>101</sup> 16 U.S.C. § 824(b)(1).

<sup>102</sup> *Hughes v. Talen Energy Mktg., LLC*, 578 U.S. 150, 167 (2016) (Sotomayor, J., concurring); *see also FERC v. Electric Power Supply Ass'n*, 577 U.S. 260, 289 (2016) ("EPSA").

<sup>103</sup> *Plan. Res. Adequacy Assessment Reliability Standard*, 134 FERC ¶ 61,212 at P 20 (2011) (citing *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274 at P 1112 (2006), *order on reh'g*, 119 FERC ¶ 61,076 (2007), *order on reh'g* 120 FERC ¶ 61,271 (2007)).

<sup>104</sup> *See California Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274 at P 1117 (2006); *Cxa La Paloma, LLC*, 165 FERC ¶ 61,148 at P 70 (2018).

<sup>105</sup> *California Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274 at P 1117 (2006).

many years and in great detail by the states.”<sup>106</sup> Notably, the states have long relied on the FPA’s reservation of state control over their own generation as an unambiguous sanction of states’ authority to control their own resource mix.<sup>107</sup> Similarly, FERC has recognized this sanction of authority to the states to control their own resource mix.<sup>108</sup>

The Supreme Court has similarly recognized this jurisdictional overlap and the states’ authority in this area. “Alongside those grants of power [under the FPA], however, the Act also limits FERC’s regulatory reach, and thereby maintains a zone of exclusive state jurisdiction.”<sup>109</sup> “But the law places beyond FERC’s power, and leaves to the States alone, the regulation of ‘any other sale’ – most notably, any retail sale – of electricity.”<sup>110</sup> This reserved authority to the states includes control over in-state “facilities used for the generation of electric energy.”<sup>111</sup> The Supreme Court explained that the “need for new power facilities” is “characteristically governed by the states.”<sup>112</sup> “These matters are consistent with those that the Supreme Court has long held to be within the states’ historic police powers, and the Court has observed that the FPA’s jurisdictional divide ‘was drawn with meticulous regard for the continued exercise of state power, not to handicap or dilute it in any way.’”<sup>113</sup> Finally, the Supreme Court has similarly determined that, under the FPA, the states have authority over their generation resource mix.<sup>114</sup>

This unique jurisdictional overlap affects how MISO collaborates with the 15 states in its footprint in determining resource adequacy needs. Compared to other RTOs and ISOs, resource adequacy is viewed and treated differently in MISO, which runs a voluntary capacity market and

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<sup>106</sup> *Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm’n*, 461 U.S. 190, 205–06 (1983).

<sup>107</sup> *See Hughes*, 578 U.S. at 166; *EPSA*, 577 U.S. at 266 (explaining that the FPA “limits FERC’s regulatory reach, and thereby maintains a zone of exclusive state jurisdiction.”).

<sup>108</sup> *See California Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274 at P 1118 (2006) (“While we find that resource adequacy is necessary for the reliable operation of the grid, and to ensure that wholesale rates are just, reasonable and not unduly discriminatory, we are not establishing planning reserve requirements, but instead are adopting those set by state and Local Regulatory Authorities in the first instance.”).

<sup>109</sup> *EPSA*, 577 U.S. at 266.

<sup>110</sup> *Id.* at 265 (citing § 824(b)).

<sup>111</sup> *Hughes*, 578 U.S. at 154 (quoting § 824(b)(1)).

<sup>112</sup> *Id.* (quoting *Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm’n*, 461 U.S. at 205).

<sup>113</sup> Co-Location Order, 190 FERC ¶ 61,115 at P 67 (2025) (citing *Munn v. People of State of Ill.*, 94 U.S. 113 (1876) and quoting *Oneok, Inc. v. Learjet, Inc.*, 575 U.S. 373, 384–85 (2015) (discussing the analogous provisions in the Natural Gas Act) (internal citations omitted)).

<sup>114</sup> *See, e.g., Citizens Action Coal. of Ind., Inc. v. FERC*, 125 F.4th 229, 238 (D.C. Cir. 2025) (citing 16 U.S.C. § 824(b)(1)).

the states in the MISO footprint direct their utilities to meet resource adequacy requirements.<sup>115</sup> Notably, FERC “has consistently rejected a one-size-fits all approach to resource adequacy in the various RTOs/ISOs due, in large part, to significant differences between each region and also due to the well-established tenet that there can be more than one just and reasonable rate.”<sup>116</sup> FERC has recognized that these differences set MISO apart from other RTOs/ISOs in meaningful ways. First, “[t]he vast majority (approximately 90 percent) of MISO’s load is served by vertically integrated utilities over which state and local authorities play an active role in ensuring resource adequacy. In fact, even states with retail competition (i.e., Illinois and Michigan) have played an active role in ensuring resource adequacy.”<sup>117</sup> Second, FERC has also recognized that “MISO’s resource adequacy construct is designed specifically to complement state mechanisms” and “supports the independent authority of state regulators for resource adequacy and facilitates resource adequacy goals with state regulators that have decision-making authority over the amount and types of resources that are necessary to meet shared objectives.”<sup>118</sup> Applying Section 201(b) of the FPA, the D.C. Circuit has similarly explained that states have the authority “to take any other action in their role as regulators of generation facilities without direct interference from the Commission.”<sup>119</sup>

As the reliability operator, MISO is responsible for ensuring reliability for the 15 states that make up its footprint. As a result of this unique resource adequacy and reliability construct, collaborating closely with the states/RERRAs was a necessary part of creating the original ERAS process. Courts have recognized that FERC may not prevent a state “from using the resources [the state] has chosen to promote” and that “[t]he states may use any resource they wish to secure the capacity they need.”<sup>120</sup> It is incumbent upon the Interconnection Customer to identify the specific need(s) its project will address and upon the states or RERRAs to notify MISO that these projects in fact merit expedited study so that they can be available promptly if approved through the

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<sup>115</sup> See MISO, *Planning Resource Auction*, MISO, (“MISO’s resource adequacy construct complements the jurisdiction that regulatory authorities have in determining the necessary level of adequacy. It also works in concert utilities that provide demand forecasts that help drive the development of local and regional requirements.”) <https://www.misoenergy.org/planning/resource-adequacy2/resource-adequacy/#t=10&p=0&s=FileName&sd=desc>. MISO runs a centralized capacity auction, known as the planning resource auction, but also allows LSEs to meet the resource adequacy requirement by submitting a fixed resource adequacy plan or through bilateral contracting. MISO, *Planning Resource Auction: Results for Planning Year 2024-25* (Apr. 25, 2024), [2024 PRA Results Posting 20240425632665.pdf](#).

<sup>116</sup> *Cxa La Paloma, LLC*, 165 FERC ¶ 61,148 at P 76 (2018).

<sup>117</sup> *Midcontinent Indep. Sys. Operator, Inc.*, 162 FERC ¶ 61,176 at P 67 (2018).

<sup>118</sup> *Midcontinent Indep. Sys. Operator, Inc.*, 170 FERC ¶ 61,215 at P 118 (2020).

<sup>119</sup> *Connecticut Dep’t of Pub. Util. Control v. FERC*, 569 F.3d 477, 481 (D.C. Cir. 2009).

<sup>120</sup> *New Jersey Board of Public Utilities v. FERC*, 744 F.3d 74, 96-97 (3d Cir. 2014) (quoting *Connecticut Dep’t of Pub. Util. Control*, 569 F.3d at 481-82).

applicable RERRA's regulations and processes. The states have many different processes for identifying these needs—some utilize top-down integrated resource planning, some utilize subsidies to encourage certain resource classes, and others directly procure new generation mix toward resources. MISO simply facilitates the ERAS process, which enables projects addressing resource adequacy and/or reliability needs to be reviewed in an expedited manner.

MISO appreciates the Commission's recognition of the RERRAs' "authority, responsibilities, and expert assessment of their resource adequacy needs" and has worked to reflect their responsibility in its refined ERAS proposal.<sup>121</sup> In its refined proposal, MISO has worked to describe how the ERAS process is sufficiently targeted to study *only* interconnection requests that are needed to meet the anticipated shortfall in generating capacity. MISO cannot establish a process on its own—it must implement a process that all 15 of its member-states can participate in. To that end, MISO is looking to the RERRAs to verify that the new, incremental load addition claimed by the Interconnection Customer is valid and not otherwise included in a resource plan or other process under the RERRA's purview or a resource adequacy deficiency that the ERAS projects are being proposed to address. Certain elements are required and MISO needs several parties to be actively involved in ERAS for it to work both legally and practically: a time-critical resource adequacy and/or reliability need must exist, a project applicant must propose an ERAS project to address that need, the RERRA must verify that the new, incremental load is valid or the resource adequacy deficiency exists. Finally, MISO needs to provide the process to enable the load need to be timely addressed. MISO's refined proposal fully incorporates each of these requirements and in way that encourages participation across its footprint.

### III. THE PROPOSED REVISIONS ARE JUST AND REASONABLE

FERC applies an independent entity variation standard to evaluate proposals by RTOs and ISOs for revisions to the procedures outlined in Order No. 2003 and Order No. 2023.<sup>122</sup> Consistent with Order Nos. 2003 and 2023, MISO may seek variations from the *pro forma* Large Generator Interconnection Procedures ("LGIP") and Large Generator Interconnection Agreement ("LGIA") if those variations "are just, reasonable, not unduly discriminatory or preferential, and accomplish the purpose of" the terms proposed in Order Nos. 2003 and Order 2023.<sup>123</sup>

MISO's refined ERAS proposal meets this standard. The instant filing addresses a significant and concrete need that was identified and confirmed in the MISO stakeholder process for the original ERAS filing, numerous load forecasts, and by MISO in its administration as the reliability operator for the midcontinent. The supporting evidence demonstrates that the current

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<sup>121</sup> ERAS Order at P 203.

<sup>122</sup> Order No. 2003, FERC Stats. & Regs. ¶ 31,146 at PP 822-827; Order No. 2003-A, FERC Stats. & Regs. ¶ 31,160 at P 759.

<sup>123</sup> Order No. 2003, 104 FERC ¶ 61,103 at PP 825-826; Order No. 2023, 184 FERC ¶ 61,054 at P 1764.

queue mechanisms will not be able to effectively address the resource adequacy and/or reliability needs that the states have in the short-term. MISO is proposing to study a capped number of ERAS projects on a serial basis to accelerate the review time so that urgently needed and “shovel ready” projects are able to reach a GIA faster. Utilizing serial studies for ERAS accomplishes the purpose of Order Nos. 2003 and 2023 by minimizing the restudy risk that is inherent to multi-phase cluster studies so ERAS projects can be built quickly, without the risk of cascading restudies. Although the use of cluster studies is appropriate for the large queue volume seen in MISO’s Definitive Planning Phase (“DPP”) process, the use of serial studies for ERAS will allow MISO to quickly study ERAS projects to address resource adequacy and/or reliability concerns and to meet the goals of the temporary ERAS process. MISO requests that the Commission find all Tariff revisions proposed in this filing just and reasonable and consistent with the goals of Order No. 2003 and Order No. 2023 because “they foster[] increased development of economic generation by reducing interconnection costs and time[.]”<sup>124</sup>

The Tariff revisions proposed in this filing are limited in scope and in impact on the generator interconnection queue but offer significant benefits in terms of addressing resource adequacy and reliability concerns in MISO, and therefore the Commission should accept them as just and reasonable.<sup>125</sup> Redlined and clean versions of the revised Tariff sheets are included as Tabs A and B, respectively.<sup>126</sup> This filing is also supported by the Direct Testimony of Andrew Witmeier, MISO’s Director of Resource Utilization, included as Tab C with this filing.

#### **A. Refinements Made to the ERAS Process**

Following the Commission’s order on its original ERAS filing, which provided helpful guidance for how MISO could move forward with ERAS, MISO worked to quickly implement changes to the proposed ERAS process to address the Commission’s concerns while also crafting a process that can be started this year. To that end, MISO is proposing several changes to its original ERAS proposal, which it believes will address the Commission’s concerns and other feedback received from stakeholders. The following figure demonstrates how MISO’s ERAS proposal has evolved since its inception.

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<sup>124</sup> *Id.* at PP 11-12.

<sup>125</sup> *See* Tab A Redlines. In the event of a discrepancy between the redlines as described in this letter and those included in the attached Tariff sheets, MISO intends for the language in the attached Tariff sheets to govern.

<sup>126</sup> MISO notes that its compliance filing for FERC Orders 2023 and 2023-A, 184 FERC ¶ 61,054 (2023) 186 FERC ¶ 61,199 (2024)) (“Order No. 2023-A”), remain pending before the Commission in Docket No. ER24-2046-000. Thus, some of the proposed Tariff sections will require renumbering once MISO has received orders on this filing and its Order 2023 compliance. MISO intends to make a “true up” filing to address reconcile these versions of its Tariff promptly after receiving Commission orders accepting the applicable Tariff sections.



**Figure 2: ERAS Proposal Changes from Inception**

|                           | Where we began                            | Original ERAS filing                                                                                                                                                                                                                                                                                                                    | Refined ERAS filing                                                                                                                                                                                                                                                                                                                         |
|---------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cap                       | N/A                                       | N/A                                                                                                                                                                                                                                                                                                                                     | No more than 10 projects studied per quarter and no more than 68 projects studied overall with an 8 project carve out for restructured states and a 10 project carve out for IPPs with agreements with entities other than LSEs                                                                                                             |
| Applicants                | Load Serving Entities                     | LSEs, IPPs, and DPP transfer projects meeting all requirements                                                                                                                                                                                                                                                                          | No change                                                                                                                                                                                                                                                                                                                                   |
| Process timeline          | Project studied and GIA issued in 60 days | Quarterly cadence following established MISO timelines, receiving GIA in ~90 days                                                                                                                                                                                                                                                       | No change                                                                                                                                                                                                                                                                                                                                   |
| Required documentation    | RERRA acknowledgement                     | RERRA acknowledgement and one of the following: <ul style="list-style-type: none"> <li>LSE acknowledgment to self-supply</li> <li>PPA between IC and load or its LSE</li> <li>Build-Own-Transfer Agreement</li> <li>Other agreement between applicant and load, or its LSE, stating project will meet RA or reliability need</li> </ul> | RERRA <b>verification</b> and one of the following: <ul style="list-style-type: none"> <li>LSE acknowledgment to self-supply</li> <li>PPA between IC and load or its LSE</li> <li>Build-Own-Transfer Agreement</li> <li>Other agreement between applicant and load, or its LSE, stating project will meet RA or reliability need</li> </ul> |
| Identification of need    | N/A                                       | Description of need in ERAS application                                                                                                                                                                                                                                                                                                 | IC must identify specific load addition and/or RA deficiency the project will address (MW value band, approximate location, etc.) and this information will be made public                                                                                                                                                                  |
| Locational requirement    | N/A                                       | N/A                                                                                                                                                                                                                                                                                                                                     | Project and RA and/or reliability need must be within the same Local Resource Zone                                                                                                                                                                                                                                                          |
| Size requirement          | N/A                                       | N/A                                                                                                                                                                                                                                                                                                                                     | Interconnection Service must not exceed 150% of the identified MW need                                                                                                                                                                                                                                                                      |
| Commercial Operation Date | Expected COD with 2-5 years               | 2025/26 applicants: 3 years from submission plus 3-year grace period;<br>2027/28 applicants: 12/31/2028 COD plus 3-year grace period                                                                                                                                                                                                    | All applicants must have a COD within 3 years of submission plus a 3-year grace period                                                                                                                                                                                                                                                      |
| Penalties                 | Requested feedback after first PAC        | Projects transferring from DPP process will be subject existing tariff language (e.g. AWP and Harm Calculations)                                                                                                                                                                                                                        | No change                                                                                                                                                                                                                                                                                                                                   |
| Sunset                    | 2028 / 2029                               | 12/31/2028 or on the completion date of the 2027 DPP queue cycle, whichever first                                                                                                                                                                                                                                                       | ERAS will sunset at the earlier of the completion of the sixty-eighth ERAS study or on August 31, 2027                                                                                                                                                                                                                                      |

This chart demonstrates how MISO has worked with stakeholders to address concerns related to ERAS implementation and how its revised proposal responds to these concerns and Commission guidance. MISO is committed to proposing a process that can and will be used by its member states, which has required numerous iterations of the ERAS proposal.

## 1. Implementation of an ERAS Project and Quarterly Study Period Project Cap

In the Commission’s order rejecting MISO’s original ERAS filing, it emphasized that “MISO’s proposed Tariff places no limit on the number of projects that could be entered into the ERAS process” and was concerned that “an ERAS queue with processing times for interconnection requests that are too lengthy to meet MISO’s stated resource adequacy and reliability needs similar to the challenges with the current DPP queue.”<sup>127</sup> In response to this feedback, MISO is now implementing a cap on the number of projects that may participate in ERAS: 68 projects total that will be studied in ERAS until the sunset date of August 31, 2027.<sup>128</sup> Additionally, MISO has carved out a maximum of 8 projects (of the total 68 ERAS projects) that may be submitted to serve

<sup>127</sup> ERAS Order at P 199.

<sup>128</sup> Witmeier Testimony at 26:11-19, 27:1-7, 49:6-15.

retail choice load and a maximum of 10 projects (of the total 68 ERAS projects) that may be submitted by IPPs with agreements with entities other than LSEs.<sup>129</sup> Thus, of the total 68 ERAS projects – 8 projects may be submitted to serve retail choice load, 10 projects may be submitted by IPPs, and 50 projects may be submitted by the remaining project applicants for non-retail choice states.

In addition to the total ERAS project cap and the carve outs, MISO is also implementing a cap of 10 projects that will be accepted and studied per ERAS quarterly cycle. Implementing a project cap per ERAS quarterly study period will enable MISO to adequately study each of the proposed projects in the accelerated timeframe that is required by ERAS.<sup>130</sup> The 10 projects per quarterly study cycle will be selected based on time of submission, but MISO also plans to implement a wait list for any projects that apply beyond the 10<sup>th</sup> project. Then MISO will implement a screening process to ensure that each of 10 proposed ERAS projects are not within the same geographic area or do not impact the same constraint. If any of the 10 projects are found to be within the same area or impacting the same constraint as another project in that same ERAS quarterly study period, then the project that was submitted later in time will be deferred to the next available quarterly cycle.<sup>131</sup> Then MISO will review any projects in the future quarterly cycles' waitlist to determine whether one of them can be moved up into the previous project's slot, which will require MISO to confirm that the next project is also not in the same geographic zone or addressing the same constraint as one of the nine other proposed projects that were already selected. The remaining projects submitted in that specific cycle that are not accepted for processing will be deferred to future ERAS cycles in order of submission time.

Capping the number of projects per cycle provides numerous benefits for MISO and generators. First, MISO anticipated that a small number of projects would participate per ERAS quarterly cycle, but the cap will ensure that no more than ten are able to be studied per cycle. This will enable MISO to complete the ERAS process more efficiently per project per cycle, which will facilitate the project obtaining an EGIA faster.<sup>132</sup> Second, the cap allows MISO to better plan for the number of projects that will be studied per cycle, which will help MISO efficiently coordinate internal resource needs to complete the studies on time. Knowing the number of projects will also help MISO plan the quarterly study periods out in a more even manner, which will also assist with providing MISO with the necessary information to make additional employee hires if necessary.<sup>133</sup> Third, capping the total number of projects that can participate in ERAS will further minimize the

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<sup>129</sup> *Id.* at 4:3-5, 26:17-19, 27:1-3.

<sup>130</sup> *Id.* at 4:5-6, 17:3-5, 27:8-15.

<sup>131</sup> *Id.* at 27:19-21, 28:1-3, 28:17-23.

<sup>132</sup> *Id.* at 27:8-15.

<sup>133</sup> *Id.* at 17:1-8.

impact on the DPP queue. While MISO stands by its original assertions that the ERAS process will have no impact on projects in the DPP queue and that the strict entry requirements will effectively limit submissions, expressly capping the number of projects that can participate in ERAS will further ensure that there are no negative impacts to projects currently in the queue.<sup>134</sup> Finally, the Commission found PJM's RRI cap to be "reasonably balanced the need to address PJM's resource adequacy challenges with the need to avoid an influx of projects that could overwhelm PJM's interconnection process and lead to further delays, exacerbating the current inability of projects to come online in the near."<sup>135</sup> MISO has the same goal, but plans to spread the number of projects submitted over a slightly longer time period to allow parties time to fully prepare their projects to participate in ERAS.

## **2. Updating the RERRA Notification Requirement**

To reflect the unique jurisdictional authority the states have over generation facilities and resource adequacy needs within their borders, MISO worked closely with OMS to craft the original language that would have allowed a state or RERRA to notify MISO that a proposed project should be considered for the ERAS process in order to meet a claimed resource adequacy and/or reliability need in its jurisdiction. Following the Commission's order, MISO recognized that it needed to change the RERRA requirement and has proposed updated language, which is provided below, in the tariff. In the ERAS application itself, the Interconnection Customer will identify the specific need that its project will address.<sup>136</sup> The Commission noted in its order that "MISO has not demonstrated that the proposed Tariff language is tailored to ensure that only those resources capable of addressing identified near-term resource adequacy or reliability needs are eligible for expedited study through the ERAS process."<sup>137</sup>

Over the past several weeks, MISO has made necessary adjustments to the RERRA language in the ERAS proposal based on FERC's guidance and stakeholder input. To better tailor the RERRA notification to resource adequacy needs, MISO updated the language of the requirement to the following:

A request for processing through the Expedited Resource Addition Study made by an Interconnection Customer must meet the requirements listed in Section 3.3.1 above, plus the following requirements:

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<sup>134</sup> Witmeier Testimony at 53:9-21, 54:1.

<sup>135</sup> ERAS Order at P 200.

<sup>136</sup> See Tab A Redlines, Attachment X, Section 3.3.1.

<sup>137</sup> ERAS Order at P 202.

1. The Interconnection Request shall be accompanied by a written verification from the RERRA (or its documented representative) where the load to be served by the Generating Facility is located, subject to the procedures or methods the RERRA requires, that either:

- i. the new, incremental load addition claimed by the Interconnection Customer is valid and not otherwise included in a resource plan or other process under the RERRA's purview.
  - a. The RERRA (or its documented representative) may provide such written verification in conjunction with another state or municipal agency or official (e.g. economic development authority or governor's office) to verify the new, incremental load addition above.

or

- ii. the Generating Facility proposed by the Interconnection Customer will address a resource adequacy deficiency as determined by the RERRA, State, Load Serving Entity, or Interconnection Customer. The determination can be supported by:
  - a. A state energy forecast, or other forward-looking forecast;
  - b. Commencement of a state proceeding;
  - c. Review of a RERRA, LSE, or other state resource plan or document, which may include, but is not limited to: integrated resource plans, procurement plans, or other plan or study types;
  - d. Response to a Request for Proposals (RFP); or
  - e. Other process, or delegation of authority, as determined by the RERRA or RERRA regulations (including in retail choice states).

or

- iii. If an Interconnection Customer's new Generating Facility will address a resource adequacy deficiency and will either:

(1) serve retail choice load located in a state that limits the amount of load that can select retail choice to a percentage of the electric utility's average weather-adjusted retail sales; or

(2) serve load in a retail choice state and will be located in a retail choice state other than one that limits the amount of load that can select retail choice to a percentage of the electric utility's average weather adjusted retail sales,

then the Interconnection Customer will indicate the specific load on the Interconnection Request in Section 4.s of Appendix 1 and provide the evidence of determination in (ii) above, but will not be required to include a written verification, from a RERRA as described in Section 3.9.1(a) or (b). The Transmission Provider shall notify the respective RERRA that an Interconnection Request for a new Generating Facility has been submitted requesting processing through the Expedited Resource Addition Study process and transmit a copy of the Interconnection Request to the respective RERRA. The RERRA shall have 10 Business Days from the date of the Transmission Provider's notification and the simultaneous transmittal of the copy of the Interconnection Request to notify the Transmission Provider that the Interconnection Request should not be considered in the ERAS process. If no such notice is received at the end of 10 Business Days or if the RERRA notifies the Transmission Provider of its non-opposition prior to the end of the 10 Business Days, the Interconnection Request shall be studied through the Expedited Resource Addition Study process provided it meets the requirements listed in Section 3.3.1 and Section 3.9.2.

A RERRA's written verification is not intended to constitute or provide evidence of any final determination of need or suitability of the project for any purpose by the issuing entity beyond requesting that the Transmission Provider apply the ERAS process for such project.

2. An executed agreement evidencing that the projects submitted for ERAS processing is intended to be used by the entity with the claimed resource adequacy and/or reliability need. Such agreement shall take one of the following forms:

- a. A Load Serving Entity acknowledgement to self-supply;
- b. A Power Purchase Agreement (PPA) or similar off-take agreement between the Interconnection Customer submitting the project for ERAS consideration and the entity with the load to be served (including, but not limited to, an Alternative Retail Electric Supplier or its Load Serving Entity);
- c. An agreement that calls for the Interconnection Customer to develop the Generating Facility described in the Interconnection Request and subsequently transfer ownership or control of such Generating Facility (Build-Own-Transfer Agreement) to the entity with the load to be served (including, but not limited to, an Alternative Retail Electric Supplier or its Load Serving Entity); or

- d. Other agreement between the entity submitting the Interconnection Request, including the RERRA verification letter as appropriate, and the entity with the load to be served (including, but not limited to, an Alternative Retail Electric Supplier or its Load Serving Entity), stating that the ERAS project will be used to meet an identified resource adequacy deficiency.<sup>138</sup>

There are several aspects of the RERRA language that MISO is proposing to add to its Tariff and that MISO wishes to highlight. First, the RERRA, where the load will be located, must verify to MISO that the new, incremental load addition is valid and is not currently included in a plan or other procedure under the RERRA's purview or the Generating Facility will address an identified resource adequacy deficiency within that RERRA's footprint.<sup>139</sup> The verification may take any form that works for a specific state, but it must be made by a RERRA or a RERRA's designated representative, and it must be submitted in writing to MISO. MISO changed the details of this requirement to better target the resource adequacy driver the ERAS project is addressing and to ensure that the RERRA verifies that project will address a new load addition or resource adequacy deficiency in its footprint. The ERAS construct is a vehicle intended to achieve a narrow but important purpose: address near-term resource adequacy and/or reliability need claimed by an Interconnection Customer in a RERRA. Requiring that the RERRA verify to MISO that there is a valid, new, incremental load not already planned for or that the proposed project will address an identified resource adequacy deficiency is critical to maintaining this limited scope. Assuming the proposed project meets all the other ERAS requirements, MISO will accept the RERRA's verification and the project will be processed accordingly.

As for the second section of the RERRA language, applicants are still required to provide an executed agreement evidencing that the project submitted for ERAS is intended to be used by the entity with the claimed resource adequacy or reliability need, MISO added this language to ensure that any proposed ERAS project is directly tied to a specific load need. The executed agreement ensures that the project is one that the entity with the load to be served plans to use to address the need, and not simply a speculative project whose developers do not have any commercial arrangement to satisfy the need.<sup>140</sup> For example, an Interconnection Customer that has an agreement with a data center developer for the generation to serve that load is differently situated from a group of Interconnection Customers who are entering the queue with the hope of pitching their generation project to the developer. If the proposed ERAS projects do not meet

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<sup>138</sup> See Tab A Redlines, GIP Section 3.9.1.

<sup>139</sup> *Id.*

<sup>140</sup> Witmeier Testimony at 7:3-5, 41:1-3, 41:17-23, 42:1-2. While such optimistic submissions may be features of Interconnection Requests submitted into MISO's Definitive Planning Phase ("DPP"), these contribute to a high volume (and high drop out rate) of Interconnection Requests in the queue. ERAS is intended to have a narrower scope and be used by highly certain projects addressing urgent needs.

these requirements as well as the other ERAS eligibility requirements, then they may submit their project to the generator interconnection queue. This requirement pairs the proposed project with a specific need, mitigating overuse concerns.

Collectively, these requirements narrow ERAS projects to only those for which a claim of need is stated, for which the applicable RERRA has provided verification that there is a valid, new, incremental load not already planned for or that the proposed project will address an identified resource adequacy deficiency, and for which an executed agreement exists connecting that need to the specific project. MISO also added a third section to the RERRA language to incorporate the retail states—Illinois and a portion of Michigan—into the ERAS process to address resource adequacy deficiencies in those states.<sup>141</sup> The proposed language states that if an Interconnection Customer's new Generating Facility will serve a retail choice load then the Interconnection Customer will need to submit demonstration of the resource adequacy deficiency, but will not be required to include a written verification from a RERRA.<sup>142</sup> Rather, MISO will notify the respective RERRA in the retail state that an Interconnection Request was submitted requesting processing in ERAS and will send a copy of the request to the relevant RERRA. The RERRA will then have 10 business days from receipt of the notification from MISO to state that the Interconnection Request should *not* be considered in the ERAS process.<sup>143</sup> This proposal recognizes that these areas do not have to seek approval from their RERRA and recognizes the existence of Alternative Retail Electric Suppliers in these areas as other entities that serve load. Thus, the new proposal better facilitates use of the ERAS process in Illinois and the retail sections of Michigan without changing the role or requirements applicable to RERRAs in other parts of MISO's footprint.

To recognize and reflect the states' authority over resource adequacy, MISO retained the language indicating that a RERRA's written verification to MISO regarding a proposed ERAS project "was not intended to constitute or provide evidence of any final determination of need or suitability of the project for any purpose by the issuing entity" beyond requesting that MISO apply the ERAS process to the project.<sup>144</sup> MISO understands that each RERRA has a distinct and separate regulatory process for the approval of energy projects within its jurisdiction and did not want participation in the ERAS process to be interpreted as MISO *directing* the RERRA to approve certain projects over others. It also ensures that the notification does not pre-determine any outcome of an applicable state process. Even if a project is approved to participate in ERAS, the LSE or developer must still receive state approval through the state's corresponding regulatory review process whether that be before the state public utility commission or the RERRA. MISO is simply proposing ERAS as a tool that may be utilized to address short-term

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<sup>141</sup> See Tab A Redlines, GIP Section 3.9.1.

<sup>142</sup> *Id.*

<sup>143</sup> *Id.*

<sup>144</sup> *Id.*

resource adequacy and/or reliability needs—the states are not required to participate in or to utilize ERAS.

### **3. Establishing a Stronger Nexus to Resource Adequacy Deficiencies**

In its ERAS order, the Commission also found that MISO’s proposal did not “sufficiently describe how the ERAS process is sufficiently targeted to study only interconnection requests needed to meet the anticipated shortfall in generating capacity described by MISO.”<sup>145</sup> The Commission also pointed to PJM utilizing its locational deliverability areas and CAISO’s system need criterion to target the proposed projects to areas with resource adequacy and/or reliability needs.<sup>146</sup> To better establish the nexus between the load need and the ERAS project, MISO is now requiring that the proposed ERAS project and the load addressing the resource adequacy and/or reliability need be located in the same Local Resource Zone (“LRZ”).<sup>147</sup> This will ensure that the generation will support Local Clearing Requirements (“LCR”), and prevent ERAS projects from driving import or export concerns if the ERAS project is located in a different zone, unless the project applicant can demonstrate that the use of a Generating Facility not in the same LRZ was included in a resource filing or other submission made to the RERRA. MISO has ten geographic areas that are identified as Local Resource Zones and generally consist of one state or portions of several states.

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<sup>145</sup> ERAS Order at P 201.

<sup>146</sup> *Id.* at P 202.

<sup>147</sup> Witmeier Testimony at 4:10-15, 30:10-16, 32:4-16, 41:14-15, 61:17-19.



**Figure 3: MISO Local Resource Zones<sup>148</sup>**



MISO recognizes that that some LSEs span multiple LRZs and that LSEs regularly rely on resources from other zones to support their load requirements. MISO is requiring that the ERAS project be within the same LRZ as the load it is addressing unless the project applicant can demonstrate that the use of a Generating Facility not in the same LRZ was included in a resource filing or other submission made to the relevant RERRA.<sup>149</sup> Thus, if the ERAS project is located outside of the LRZ where the load need is located, then it will need to provide an Integrated Resource Plan (“IRP”) or a comparable document that has been filed with the RERRA with its ERAS application.<sup>150</sup>

When applying to ERAS, the Interconnection Customer must identify the specific load addition and/or resource adequacy deficiency that the project will address including the project location and the expected MW value. The project must also not exceed 150% of the identified need based

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<sup>148</sup> Tariff FERC Electric Tariff, ATTACHMENT VV, *Map of Local Resource Zone Boundaries*, available at: [https://docs.misoenergy.org/miso12-legalcontent/Attachment\\_VV\\_-\\_MAP\\_of\\_Local\\_Resource\\_Zone\\_Boundaries.pdf](https://docs.misoenergy.org/miso12-legalcontent/Attachment_VV_-_MAP_of_Local_Resource_Zone_Boundaries.pdf).

<sup>149</sup> Witmeier Testimony at 4:10-15, 30:10-16, 32:4-16, 41:14-1516.

<sup>150</sup> Witmeier Testimony at 30:10-16.

on interconnection service.<sup>151</sup> MISO recognizes that other RTOs have utilized accredited capacity limitations, but since accredited capacity depending on the fuel type can be lower than 100% for many resources, MISO's limitation is aimed at tightening the nexus between the need claimed and what facility is being built without creating different rules for different resource types. This will enable MISO to better establish a connection between the identified load need and the ERAS project while also limiting the amount of service that may be requested to address the load need plus a reasonable margin. This methodology will facilitate the efficient implementation of ERAS and is not an overly complicated formula for determining the amount of need the ERAS project may address.<sup>152</sup> These revisions ensure a stronger tie between the ERAS project and the resource adequacy deficiency that it is addressing.

#### **4. Increasing Transparency in the ERAS Process**

MISO understands that this is a unique process that is being implemented for a very specific purpose but is committed to being transparent about the projects that participate in ERAS. While refining the ERAS proposal, MISO is making several changes to the ERAS application in order to increase transparency in the process. MISO plans to publish an ERAS webpage that will provide a significant amount of information regarding each ERAS project. To that end, an ERAS Interconnection Request must identify the claimed resource adequacy and/or reliability need(s) for which it is being submitted. This must include the location of the project—i.e. the county and state of the Generating Facility site, the electrical bus location(s), and the Local Resource Zone. The ERAS Interconnection Request must identify the load to be served via the off-take agreement as well as the peak demand for electricity in MWs as the amount of Interconnection Service requested must not exceed 150% of the identified MW need, and the location of the load to be served (i.e. the county and state, and the Local Resource Zone).

As part of the ERAS application, project applicants are also required to include a non-confidential summary of information that MISO can publish on its webpage. The required information that will be provided by the project applicant must include the following: the developer proposing the ERAS project, the MW range of need the ERAS project is addressing, the LRZ region where the ERAS project is located, and a general description of the driver of the load need (i.e., data center, manufacturing plant, etc.). MISO will also publish the RERRA that submitted a verification for each ERAS project, the specific carve out the project falls within, and the specific ERAS quarterly study cycle that the proposed project will be studied in once MISO has completed its screening process per ERAS cycle.

MISO is committed to ensuring that information about the ERAS process is easily accessible both for potential project applicants but also for other stakeholders in the energy industry. MISO also plans to publish an informational guide for potential ERAS applicants that addresses many

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<sup>151</sup> See Tab A Redlines, GIP Section 3.3.1.

<sup>152</sup> Witmeier Testimony at 43:1-19, 42:1-2.

common questions and problems that an applicant might be faced with when submitting its ERAS project. MISO believes that providing numerous cycles for ERAS projects to participate in will ensure that the ideal projects are proposed for ERAS and that potential project applicants have time to fully prepare their project before applying.

## **B. The ERAS Process is Balanced and Narrowly Tailored**

ERAS was crafted to target projects that can meet resource adequacy and reliability needs quickly while also maintaining developer, fuel, and technology neutrality. MISO developed this filing based on its determination of how to best address its resource adequacy needs given its unique make up of primarily vertically integrated utilities across many different state and RERRA jurisdictions. The revised filing now incorporates the retail states so that all states in the MISO footprint may participate in ERAS. The LRZ requirement ensures that the ERAS project is located in the same area as the load need but also provides an exception for Generating Facilities not in the same LRZ that are included in a resource filing or other submission made to the relevant RERRA. State and RERRA involvement in ERAS ensures that the proposed ERAS projects are necessary to meet resource adequacy and reliability needs while also not favoring one kind of project or project developer.

These proposed revisions are properly tailored to ensure that projects capable of addressing identified resource adequacy or reliability needs participate in the ERAS process. Moreover, the new ERAS quarterly project processing cap will ensure that the projects are spread over a longer time period, which allows for the studies to be completed on a regular cadence and allows MISO to better forecast its internal resource and employee needs. Due to these changes, ERAS will not risk “replicating the same backlogs and delays plaguing MISO’s existing generation interconnection queue, which are what put MISO in its current situation in the first place.”<sup>153</sup> This revised proposal has “practical limits on the volume of interconnection requests that will be studied, such that the proposal is tailored to meet the identified resource adequacy and reliability needs.”<sup>154</sup>

The following section first describes the eligibility requirements that projects are expected to meet to participate in ERAS. These eligibility requirements are critical for ensuring that the projects that are studied in the ERAS process are truly “shovel ready” and can be implemented in the very near term. The section then explains how the refined ERAS proposal ensures that ERAS projects will not harm existing projects in the general interconnection queue and how the ERAS project cap is a further safeguard to that end. MISO is committed to ensuring this process works for as many stakeholders as possible while also addressing the near-term resource adequacy and reliability needs in its footprint.

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<sup>153</sup> ERAS Order, Comm’r Rosner concurrence at P 1.

<sup>154</sup> *Id.*

## 1. ERAS Has Strict Eligibility Requirements

Over the past several years, MISO has pursued numerous avenues to address its near-term resource adequacy issues including improving GIP procedures, implementing a queue cap, and making other queue improvements, but the benefits of these updates will be unable to address or fill the identified resource gap in the short-term.<sup>155</sup> The continued large volumes of Generator Interconnection requests and accumulating backlog have delayed resource additions from obtaining executed GIAs. These delays are exacerbated by supply chain bottlenecks, permitting delays, and other commercial challenges that plague projects in the queue and those with signed interconnection agreements. The current queue cycle takes 3-4 years and late-stage dropouts from 2020-2022 resulted in queue re-studies and prevented the processing of later cycles. Concurrently, states are seeing extreme load growth due to economic development and new, large spot load additions but lack the ability to quickly add new resources.<sup>156</sup> To address this clear and immediate need, ERAS was created to facilitate the completion of projects that are “shovel ready”—projects that can truly address the shortfalls identified by numerous load forecasts.

To that end, MISO is implementing stringent eligibility requirements for participation in ERAS to only allow projects that are commercially viable within the next few years. In addition to the requirements addressed in the previous section—the RERRA notification and executed agreement—proposed ERAS projects must also meet other eligibility requirements. First, to participate in ERAS, an Interconnection Customer must pay a non-refundable application fee of \$100,000, a milestone M2 payment of \$24,000 per MW, and, upon signing the EGIA, agree to pay for any associated network upgrades even if the project is ultimately withdrawn from ERAS. The purpose of these financial requirements is to minimize the number of speculative projects applying to ERAS and to ensure that the projects that are applying truly are ready to be built and will serve an identified need.<sup>157</sup> Second, MISO is requiring that an ERAS project’s EGIA commercial operation date be within three years of project submission. This requirement is focused on identifying the projects that are truly “shovel ready” and can be fully operational in the next five years.<sup>158</sup> Third, an ERAS project must also be able to demonstrate 100% Site Control for the generator and point of interconnection upon submission to MISO. All evidence of Site Control must be supplied at the time the ERAS application is submitted to MISO.<sup>159</sup> Finally, ERAS

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<sup>155</sup> Witmeier Testimony at 8:3-21, 9:1-2.

<sup>156</sup> *Id.*

<sup>157</sup> *Id.*

<sup>158</sup> *Id.*

<sup>159</sup> *Id.*

projects must meet capacity resource requirements and therefore must request Network Resource Interconnection Service (NRIS).

Since MISO's intent in establishing ERAS is to identify projects that are able to address resource adequacy and/or reliability needs in the short-term, existing projects that have not reached Decision Point II ("DP2") in the 2022, 2023, and later cycles will be eligible to transfer to ERAS.<sup>160</sup> MISO is currently aware of several existing projects in the generator interconnection queue that could apply to participate in ERAS and have plans to consider that option.<sup>161</sup> Existing projects may remain in the DPP cycle while applying for ERAS, but once admitted to ERAS, the projects must withdraw from the DPP cycle and will be subject to Automatic Withdrawal Penalties and Harm Penalties.<sup>162</sup> MISO is requiring these penalties because it recognizes that when projects drop out of the generator interconnection queue, the withdrawal causes harm to the other projects in the cluster. Moreover, after applying, if the existing project is deemed ineligible to participate in ERAS process, then it will forfeit the \$100,000 D1 payment provided with the ERAS application and remain in its original queue position.<sup>163</sup> When an existing project leaves the DPP process and successfully transfers to ERAS, it becomes a new Interconnection Request. Therefore, modifications may be made to the project at the time of application. Modifications are allowed to better tailor the Interconnection Request to the claimed need. Any transfers into ERAS is made under new Interconnection Request and is technically not tied to the original request.<sup>164</sup>

Limiting each ERAS cycle to 10 projects will allow MISO to study each project individually in the order submitted, rather than as a group.<sup>165</sup> This serial approach will also allow the developer to perform their own initial studies without the uncertainty of what other generation projects will be in the study as well. Enabling serial studies of the proposed projects is a key feature of ERAS. It affords ERAS Interconnection Requests a better understanding of their impact on the system when looking to address the load need. The traditional challenges related with reviewing projects on a serial basis are not present with ERAS because there will be a much smaller number of Interconnection Requests to process and they are expected to be geographically and

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<sup>160</sup> Witmeier Testimony at 15:5-17.

<sup>161</sup> Witmeier Testimony at 15:18-21.

<sup>162</sup> These penalties are outlined in Attachment X, Sections 7.6.2.1.1 and 7.8 respectively.

<sup>163</sup> Witmeier Testimony at 15:21-23, 16:1-4.

<sup>164</sup> *Id.*

<sup>165</sup> *Id.*

electrically dispersed across the MISO footprint.<sup>166</sup> This is distinguished from the DPP queue where serial studies are difficult, if not impossible, due to the extremely high number of applications per cycle and the high probability of those projects being in the same area.<sup>167</sup> If several ERAS projects in the same quarterly study cycle are located in the same geographical area or impact the same constraint, then MISO will study the project with the earliest submission time in that cycle, and will study the second request in the next available ERAS quarterly study cycle. However, MISO is not anticipating that this will occur very often due to the project cap per cycle, its large geographic footprint, and the strict eligibility requirements to participate in ERAS.<sup>168</sup>

Regarding Affected Systems Studies (“AFS”), neighboring systems will have the right to evaluate the impact of ERAS projects on their systems, just as with projects in the DPP. Any ERAS project that meets JTIQ criteria will be subject to JTIQ.<sup>169</sup> Where available, the affected system study Network Upgrades will be documented in the EGIA. Where AFS analysis is not available for inclusion in the final EGIA, the EGIA will be executed by all parties and MISO will provide any updated analysis when received from the applicable Affected System. But ERAS projects will still be responsible for all required Network Upgrades even if the ERAS project ultimately ends up terminating the EGIA.<sup>170</sup> MISO’s proposal includes Tariff language to reflect that even if MISO only provided an estimate of potential network upgrade costs upon applying to ERAS, there will be a true up where either MISO would refund an overcollection of costs or the Interconnection Customer would pay the difference to meet the actual network upgrade costs.<sup>171</sup> MISO added this requirement to ensure that the ERAS project remains responsible for AFS costs. MISO is dedicated to protecting the Generator Interconnection Queue and views this requirement as a further guardrail to protect active projects in the DPP while ensuring that only eligible, ready projects are processed through ERAS.

Finally, to reflect that ERAS is a short-term solution for a near-term problem, MISO is requiring that ERAS projects have a COD three years after the project’s submission date unless the project was deferred to a later quarterly study cycle. This caveat is necessary to insulate Interconnection Customers from the impact of deferrals due to the operation of the quarterly study cap. MISO has also written a sunset date for ERAS into the Tariff. ERAS will sunset by August

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<sup>166</sup> MISO processes hundreds of Interconnection Requests through its DPP each year with 600 in its 2023 cycle. Based on extensive discussion with RERRAs and other stakeholders, MISO projects fewer than twenty projects will qualify for ERAS in 2025.

<sup>167</sup> Witmeier Testimony at 5:16-19.

<sup>168</sup> *Id.*

<sup>169</sup> See Tab A Redlines, GIP Section 7.3.2.3.1.

<sup>170</sup> Witmeier Testimony at 6:12-16, 34:8-15.

<sup>171</sup> See Tab A Redlines, GIP Sections 3.9.6, 3.9.6.1, 3.9.6.2, and 3.9.6.3.

31, 2027, or when it has completed 68 ERAS Interconnection Request studies, whichever occurs first.<sup>172</sup> MISO made this requirement narrower in response to stakeholder feedback as well as Commission feedback stating that MISO's original ERAS proposal was unlimited in nature.<sup>173</sup>

MISO has implemented these stringent eligibility requirements for ERAS to ensure that the projects participating in it are truly "shovel ready" and capable of addressing the states' resource adequacy and/or reliability needs in the near-term. The ERAS eligibility requirements act as a filter to restrict ERAS entry to only those projects that are commercially ready, are needed to respond to a specific resource adequacy or reliability problem and can be completed in the next few years.

## **2. The Cap Will Expedite ERAS Studies and Prevent Harm to the Queue**

A significant concern that was identified in the process of crafting ERAS is the impact ERAS will have on the other queue studies. ERAS has been cautiously crafted to avoid supplanting the DPP or harming projects in the queue. MISO worked carefully to address these concerns and emphasizes its commitment to prioritizing the use and improvement of MISO's generator interconnection queue. Projects in the generator interconnection queue will not be competing with ERAS projects for transmission capacity because although both ERAS and DPP projects will utilize the same MTEP base case, they will have different generator assumptions.<sup>174</sup> ERAS will include only approved Generating Facilities, where the DPP will include all queued projects which includes a significant amount of speculative projects.<sup>175</sup>

As Andrew Witmeier explains in his direct testimony attached to this letter, before every ERAS cycle, all Interconnection Requests with a GIA approved since the last base case was created will be added to the base case for the following ERAS cycle but they are not included in any ongoing DPP studies.<sup>176</sup> The base case for each DPP cycle is never updated once the study process is kicked off except for generation changes due to Interconnection Request withdrawals or generator retirements.<sup>177</sup> This ensures that the transmission capacity made available for DPP projects is not

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<sup>172</sup> *Id.* at Section 3.9.9.

<sup>173</sup> *See* Tab A Redlines, GIP Section 3.3.1; ERAS Order at P 203.

<sup>174</sup> Witmeier Testimony at 17:9-19.

<sup>175</sup> *Id.*

<sup>176</sup> *Id.*

<sup>177</sup> *Id.*

being taken away by ERAS Interconnection Requests approved outside of the DPP cycle.<sup>178</sup> This also insulates existing DPP projects from negative impacts or cost shifts due to the existence of the ERAS process.<sup>179</sup>

By providing ERAS as a tool for the states to utilize, MISO is not looking to displace or overshadow the generator interconnection queue, rather it is providing a process to address a near-term, identified resource adequacy need. The ERAS eligibility requirements are more rigorous than the DPP requirements and are capped both in total number of projects and number of study cycles, which ensures a smaller applicant pool of more earnest project applicants for ERAS and maintains the integrity of the generator interconnection queue. A comparison of the different eligibility requirements is included below.

### **C. The ERAS Process is Not Unduly Discriminatory and is Consistent with Open Access Requirements**

In Order Nos. 888 and 2003, FERC aimed to prevent the discriminatory treatment of competitive generation by requiring open access transmission tariffs that are not “unduly discriminatory or anticompetitive” and that “offer third parties access on the same or comparable basis, and under the same or comparable terms and conditions ....”<sup>180</sup> MISO’s refined ERAS proposal remains in alignment with those requirements—it is not unduly discriminatory, it is not anticompetitive, and it provides third parties with access to the transmission system on the same or comparable basis. This section first explains why the ERAS proposal is not unduly discriminatory and then addresses how ERAS meets FERC’s open access requirements.

#### **1. ERAS is Not Unduly Discriminatory**

There is no restriction on the type or sponsor of projects that can apply to the ERAS process, which makes the application process non-discriminatory. MISO has also created carve outs to the total project cap for applicants that are uniquely situated like Independent Power Producers and developers serving retail choice states. These carve outs will allow these groups of applicants to participate on equal footing with other applicants proposing ERAS projects and must meet the same eligibility requirements to participate in ERAS. MISO added the carve out for IPPs to address concerns that LSEs had an advantage over other entities when submitting projects to

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<sup>178</sup> *Id.*

<sup>179</sup> *Id.*

<sup>180</sup> Order No. 888, FERC Stats. & Regs. ¶ 31,036 at 31,647. *See also Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, FERC Stats. & Regs. ¶ 31,146 (2003), *order on reh’g*, Order No. 2003-A, FERC Stats. & Regs. ¶ 31,160, *order on reh’g*, Order No. 2003-B, FERC Stats. & Regs. ¶ 31,171 (2004), *order on reh’g*, Order No. 2003-C, FERC Stats. & Regs. ¶ 31,190 (2005), *aff’d sub nom. Nat’l Ass’n of Regulatory Util. Comm’rs v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007), cert. denied, 552 U.S. 1230 (2008).



ERAS. The carve out for the retail states also enables developers in those areas to participate in ERAS and set aside a portion of the projects to ensure they are able to participate.

Initially, MISO proposed only allowing LSEs, and those contracting with LSEs, to apply for ERAS. After receiving stakeholder feedback on this point while preparing its original ERAS filing, MISO expanded ERAS to allow any applicant to apply to ERAS as long as the applicant had an executed agreement for a specific load need. Under the revised ERAS process, an Independent Power Producer (“IPP”), LSE, or developer may apply to ERAS.<sup>181</sup> MISO’s proposal to enable IPPs with an LSE offtake agreement to apply for ERAS addresses the unduly discriminatory concerns identified by the stakeholders and the 10 project carve out enables further participation for IPPs. Some stakeholders have protested that this is still favoring LSEs over other kinds of applicants and thus assert that ERAS is unduly discriminating against non-LSE participants. MISO disagrees. MISO has expanded the applicant pool to include developers that have contracted offtake agreements with a LSE to propose ERAS projects and added project cap carve outs to enable further participation by those IPPs that prefer to contract with the load source directly rather than the LSE. ERAS projects submitted by IPPs that have contracts with the LSE will not count towards the ten project cap. Thus, the ten project carve out exists to create a space designated specifically for IPPs, thus addressing concerns that LSEs may exhaust the ERAS cap before IPPs can submit their projects. This approach balances enabling broader participation with the need to ensure that ERAS does not become a general purpose alternative to the DPP or grow beyond a limited number of projects. Any Interconnection Customer that has a project that they believe is the most cost effective, ready, or best positioned resource to respond to an urgent resource adequacy need is encouraged to apply to participate in ERAS.

Under the revised ERAS proposal, developers will have comparable access to the ERAS process and may also execute commercial arrangements with load. Any other differences for project applicants are neither created nor exacerbated by MISO’s Tariff.<sup>182</sup> The purpose of ERAS is to encourage the submission of projects that have been identified as responsive to a need and can be completed rapidly. Although MISO has previously stated that requiring executed agreements does not necessarily prove project readiness,<sup>183</sup> the executed agreement requirement serves a different purpose and provides additional value in the context of this filing. Specifically, requiring executed agreements for ERAS effectively ties the project to the claimed resource adequacy and/or reliability need. The process of securing the necessary agreements and acknowledgment by the RERRA may be competitive. The ERAS process simply moves that competition and development of commercial certainty to before the Interconnection Request is submitted, rather than while it is in queue. MISO has actively worked to reduce the risk of

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<sup>181</sup> Witmeier Testimony at 39:18-23, 1-7.

<sup>182</sup> ERAS offers a level playing field and contemplates that IPPs may be the entities that secure the agreement and RERRA notice for a given need.

<sup>183</sup> MISO Initial NOPR Comments, Docket No. RM22-14-000 (October 13, 2022).

speculative projects participating in ERAS and requiring executed agreements is one way to ensure that.

In addition to expanding the different kinds of applicants that can participate in ERAS, MISO is also allowing existing projects in the Generator Interconnection Queue to transfer to ERAS.<sup>184</sup> In the original ERAS filing, several stakeholders argued that ERAS would result in the unequal treatment of participants who have dutifully followed the traditional interconnection process. But MISO is allowing any existing projects to transfer to ERAS if the project is not past Decision Point II (“DP2”). MISO is prohibiting transfers after DP2 to protect the remaining projects in the queue by preventing any unplanned re-studies that could result from any late-stage transfers.<sup>185</sup> Also, MISO is requiring that existing projects that do transfer to ERAS pay all relevant withdrawal penalties in addition to making the non-refundable \$100,000 D1 payment to participate in ERAS.<sup>186</sup> Due to these high financial stakes and the strict eligibility requirements for ERAS, MISO is not anticipating many transfers from the DPP process. Some stakeholders wanted greater transferability from the DPP to ERAS, MISO’s proposal however reflects the compromise of protecting the existing queue while providing projects with the opportunity to transfer from the DPP to ERAS.

In addition to the different eligibility requirements between ERAS and the DPP process, MISO plans to coordinate the ERAS, EPR, and DPP studies to maximize efficiency and reduce any impact on each other.<sup>187</sup> MISO expects protestors to claim that the ERAS process will negatively impact existing projects that are currently included in the Generator Interconnection Queue. At numerous stakeholder meetings during the original ERAS filing, MISO stressed that this was not the case due to the way in which the studies are completed. The base case for MTEP, EPR, and ERAS projects is updated with all GIAs approved to date. Approved MTEP projects can be utilized for constraint mitigation in DPP, EPR, and ERAS projects studies. Additionally, Network Upgrades that are identified in ongoing MTEP studies that mitigate congestion in DPP and ERAS studies will remove the need for DPP and ERAS network upgrades once the MTEP project is approved.<sup>188</sup> Finally, ERAS projects will not harm projects currently studied in the DPP process by taking existing transmission capacity headroom from active projects ERAS and DPP use the same MTEP base case as a starting point and any headroom used by ERAS projects is not

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<sup>184</sup> Witmeier Testimony at 15:5-17.

<sup>185</sup> These projects are the ones that would receive the least benefit from ERAS given their degree of advancement through the DPP.

<sup>186</sup> Witmeier Testimony at 15:21-23, 16:1-4.

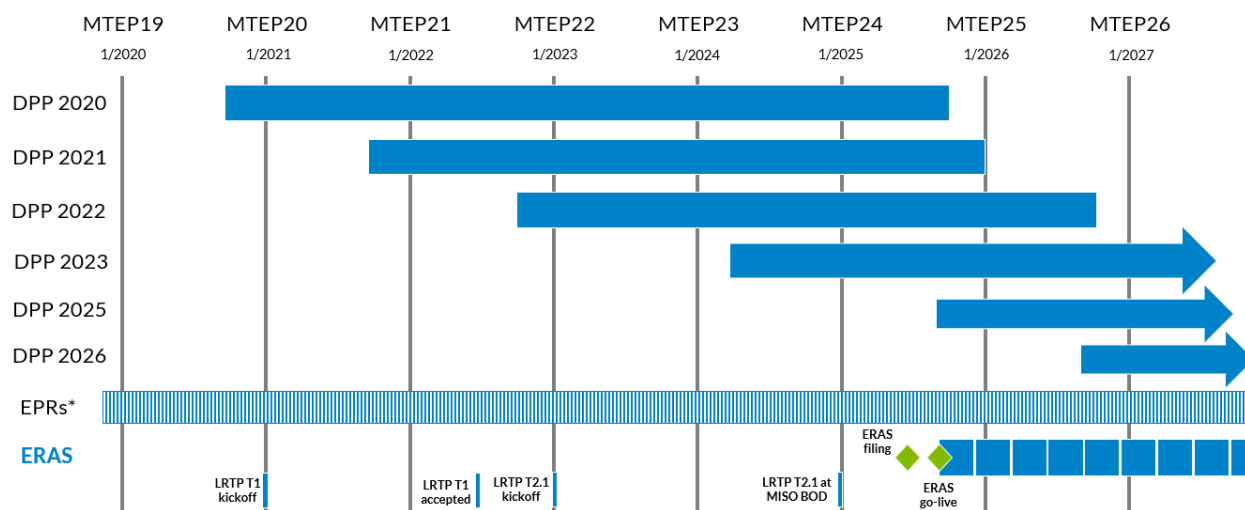
<sup>187</sup> The DPP is primarily described in section 7 of the GIP. See Tariff, Attach. X, GIP Section 7.

<sup>188</sup> See MISO BPM 15, Section 6.1.1.1.

deducted from the DPP model.<sup>189</sup> The output of the DPP and ERAS models are then reconciled in the next MTEP. This is consistent with how MISO reconciles currently effective parallel processes through the next MTEP base case. Thus, while it may be possible for over-allocation of capacity headroom to occur, this would not impact DPP projects and would be addressed through MTEP. Thus, ERAS projects will not have early access to newly available headroom related to Tranche 2.1 and will not disadvantage projects from 2025 queue cycle.

The chart below demonstrates the ongoing queue study cycles and the projects in those cycles are still using the transmission capacity that was available in the system at the time that model study started. If MISO approves an ERAS project that will utilize the transmission capacity in MTEP 24 and the DPP 23 is using MTEP 23, ERAS will not take away transmission capacity from any project in the 2023 queue cycle. Ongoing queue cycles interact with each other, but do not take transmission capacity or headroom from each other. Thus, ERAS projects will not take away transmission capacity for ongoing DPP cycles as the base case is not updated. Any overallocation that may occur will be identified and mitigated in the next MTEP cycle.

**Figure 4: ERAS Will Integrate With Existing Study Processes<sup>190</sup>**



ERAS provides all interconnection customers with a comparable opportunity to submit an interconnection request and compete to be studied under MISO's ERAS interconnection procedures. ERAS treats participants equally as long as they meet the eligibility criteria. All

<sup>189</sup> Witmeier Testimony at 17:9-19.

<sup>190</sup> *Expedited Resource Adequacy Study (ERAS) Workshop* at 10, (December 6, 2024), [https://cdn.misoenergy.org/20241206%20Expedited%20Resource%20Adequacy%20Study%20\(ERAS\)%20Workshop665747.pdf](https://cdn.misoenergy.org/20241206%20Expedited%20Resource%20Adequacy%20Study%20(ERAS)%20Workshop665747.pdf).

ERAS applicants will be subject to the same rules and requirements on a comparable basis, regardless of fuel type, technology, or any other factors.

## 2. ERAS is Consistent with Open Access

MISO's interconnection procedures are part of an open access transmission tariff and thus MISO must offer access to the generator interconnection process on the same or comparable basis. Unlike some stakeholder assertions, ERAS is not providing priority access to its generator interconnection process for an exempted class of interconnection requests. The ERAS process is open, competitive, technology/fuel agnostic, and does not involve MISO favoring or selecting certain projects over others. This includes existing projects in the queue as MISO is not harming Interconnection Customers in the generator interconnection queue by using available headroom on the transmission system.

Once a project has met the strict eligibility requirements for ERAS, including the RERRA verification, it is allowed to participate in the ERAS process. Due to the jurisdictional split between the FERC and the states over resource adequacy and reliability, MISO's role is not to be in the middle of resource decision-making processes of the states or RERRAs.<sup>191</sup> Unlike PJM's Resource Reliability Initiative ("RRI") which clearly prioritizes projects on the ELCC Class Ratings, MISO is not going rank ERAS projects. The ERAS process does not unduly discriminate against or in favor of any type of resource or pre-existing project, which is unique from the PJM and CAISO's proposals that favor certain projects by giving higher weights to resources that are more reliable and consistent.<sup>192</sup> PJM's RRI process is aimed at enabling "a very limited injection of 50 projects that score high in measures PJM has identified as contributing to addressing reliability needs."<sup>193</sup> PJM specifically noted that 60% of its Transition Cycle #2 were intermittent resources but asserted its need for high-reliability value projects to meet its near-term resource adequacy needs.<sup>194</sup> Despite PJM's clear preference for certain kinds of projects that are not intermittent and placing a limit on the total number of projects that can participate, the Commission approved their proposal.<sup>195</sup>

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<sup>191</sup> See 16 U.S.C. § 824(b)(1).

<sup>192</sup> *PJM Interconnection, L.L.C.*, Docket No. ER25-712-000, PJM's Transmittal Letter (filed Dec. 13, 2024) ("PJM's RRI Transmittal Letter"); *California Independent System Operator Corporation*, Docket No. ER24-2671-000, CAISO's Transmittal Letter (filed Aug. 1, 2024).

<sup>193</sup> PJM's RRI Transmittal Letter at 3.

<sup>194</sup> *Id.*

<sup>195</sup> *PJM Interconnection, L.L.C.*, 190 FERC ¶ 61,084 at P 78 (2025). PJM awards 55 out of a possible 100 points for two attributes: unforced capacity ("UCAP") and effective load carrying capacity ("ELCC") that tend to favor certain, non-intermittent resource classes over others.

While the refined ERAS process is implementing a project cap, MISO will not rank or score submitted projects and is open to any applicant and any fuel source as long as the project meets ERAS eligibility requirements. Open access requirements and the states' jurisdiction over resource adequacy are not mutually exclusive. In the revised ERAS proposal, MISO is still not weighing any class of resources over others but rather is prioritizing projects that can be completed in the near-term to address specific looming resource adequacy shortfalls. MISO is also not sorting winner or loser ERAS applicants based on the specific attributes of each generating facility. Rather it is deferring to state jurisdiction over resource procurement and facilitating the identification of projects that will be completed in a short time period to address resource adequacy and reliability needs. The states can determine the best form of capacity that will meet their needs through the ERAS process. The ERAS process will also mitigate many of the identified co-location concerns heard in the industry as states will have the ability to quickly address large spot loads.<sup>196</sup>

In the original ERAS filing, some stakeholders asserted that ERAS violates open access by preferring certain LSE/RERRA-sponsored projects or that ERAS treats participants unequally by granting undue advantages to projects owned by LSEs. Many of the refinements made to the original ERAS filing address those complaints and aim to equalize the playing field between applicants. MISO's proposed Tariff language is clear that *any* Interconnection Customer may submit an ERAS project if it meets the requirement of supplying an executed agreement.<sup>197</sup> A non-LSE related Interconnection Customer could submit an agreement with a particular load that their generation will serve.<sup>198</sup> The RERRA will continue to have its applicable regulatory oversight over the LSE and still must verify the new, incremental load addition claimed by the Interconnection Customer is valid and not otherwise included in a resource plan or other process under the RERRA's purview or the Generating Facility will address a resource adequacy deficiency before the project can participate in ERAS.

Thus, the ERAS process treats all applicants on a comparable, not unduly discriminatory, basis that is consistent with FERC's open access requirements, subject to the ERAS eligibility requirements, which are applied uniformly across all applicants.

#### **D. Substantial Evidence Supports the Need for ERAS**

Substantial evidence supports MISO's need for ERAS. MISO has created ERAS to work in parallel with the DPP process to provide a process for non-speculative, shovel ready projects to be completed in 3-5 years. The ERAS process incorporates the states' primacy on resource adequacy while providing a pathway for those projects to be completed on an accelerated basis.

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<sup>196</sup> See Co-Location Order, 190 FERC ¶ 61,115 (2025).

<sup>197</sup> See Tab A Redlines, Section 3.9.1.

<sup>198</sup> See *id.*

MISO's refined ERAS proposal addresses a real need that has been identified in numerous load forecasting reports, by the states, and in MISO's own experience as an independent system operator.<sup>199</sup> MISO's experience with a quickly changing industry and load growth is being witnessed across the country and by many other entities in the industry that have discussed similar experiences at technical conferences hosted by FERC including the recent conference on co-location.<sup>200</sup> Comments made during FERC's technical conference on resource adequacy recognized that there is a reliability crisis and that generators need to come online in the very near term to address the looming resource adequacy needs.<sup>201</sup> MISO recognizes these concerns and is working expeditiously to make changes to address those needs in the near-term. The supporting evidence demonstrates that the benefits of the current queue improvement mechanisms will take longer than is necessary to address the near-term resource adequacy needs.<sup>202</sup> The GIP improvement mechanism will improve the quality of the projects entering the queue, the Cap mechanism will address the quantity of projects entering the queue, and ERAS will supply the states with a mechanism to address resource adequacy and reliability needs in the next few years. The proposed ERAS revisions will benefit Interconnection Customers and other interconnection process participants by supplying a way for commercially ready, necessary projects to obtain a GIA quickly to address resource adequacy and reliability issues within the MISO footprint.

The original ERAS process was extensively reviewed and discussed in the stakeholder process and MISO adopted many stakeholder suggestions to ensure the process achieves what it aims to do.<sup>203</sup> The refined-ERAS procedures will ensure that Interconnection Customers applying to participate have projects that are ready to be completed.<sup>204</sup> MISO needs an effective tool to address resource adequacy and reliability needs now, which is why it worked expeditiously to refine its previous ERAS process and is now proposing an updated process that can be executed in a few months. By implementing the strict eligibility requirements, ERAS will increase certainty for Interconnection Customers by ensuring that all ERAS projects are "shovel ready" and are required to pay for any associated Network Upgrades even if they end up ultimately dropping out

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<sup>199</sup> See *supra* notes 51-87; see also, Tab C, Direct Testimony of Andrew Witmeier.

<sup>200</sup> See *supra* Section II.B.

<sup>201</sup> See *supra* note 80.

<sup>202</sup> 2024 Cap Filing at 17 ("Although MISO's recent queue reforms contained many important measures to enhance the current queue process, these measures are expected to work over a period of time and may not allow MISO to immediately address the identified queue issues for the 2023 DPP cycle and reduce study cycle volume to a level that supports studies using realistic assumptions.").

<sup>203</sup> See *supra* Section II.C.

<sup>204</sup> See *supra* Section III.B.

of the process.<sup>205</sup> ERAS was carefully crafted to ensure that existing projects in the Generator Interconnection Queue will not be affected by the ERAS process, nor will those projects lose out on existing transmission capacity this is especially true now that MISO has capped the ERAS process to 68 projects total spread out over multiple cycles.<sup>206</sup> The existing queue will remain a priority for MISO. MISO does not view ERAS as infringing upon or negatively affecting the existing queue, but rather as an additional tool for states to utilize if eligible.

Establishing a separate process for projects addressing resource adequacy and/or reliability needs is not an unfamiliar concept at FERC. As it noted in the original ERAS Order, the Commission previously accepted similar proposals from CAISO and PJM.<sup>207</sup> MISO recognizes that the other RTOs utilized some form of a scoring matrix for proposed projects and that ERAS does not involve a similar methodology. Due to the states' responsibility for resource adequacy within their borders, MISO did not want to be considered the entity picking and choosing projects between the states. MISO also cannot require the states or RERRAs to participate in a specific way or impose a specific selection process for ERAS projects. Instead, it implemented a project cap, a cycle cap, a strengthened RERRA verification, more detailed application requirements, and strict eligibility requirements to ensure that only truly commercially viable projects will apply to participate in ERAS. MISO is striving to balance the unique differences found in its footprints with some of the characteristics found in other RTO/ISO's proposals.

Due to the very near-term, unexpected load growth that the MISO footprint is experiencing, MISO is proposing a refined process to review and finalize projects that can address these resource adequacy and/or reliability needs. ERAS strikes the right balance between significant competing interests and MISO providing the process to allow generation to come online to address short-term, claimed needs. The Generator Interconnection Queue will remain MISO's priority and focus as ERAS is a unique answer to a temporary and unanticipated problem and is capped both in number of projects and in length of time. Recognizing all the other changes MISO is making to the Generator Interconnection process, MISO fully expects that it will be reduced to one year by the time the ERAS process is designed to sunset. Complex problems commonly require creative solutions and ERAS is MISO's creative solution to the rapid evolution of the energy industry in our footprint.

MISO's refined ERAS proposal, described herein, is just and reasonable. ERAS is balanced in addressing the complex needs identified by numerous parties and is narrowly tailored to the identified resource adequacy and reliability needs. Addressing the looming resource adequacy needs in the MISO footprint requires that MISO and the states work together to provide solutions to the problem. Again, MISO views the ERAS process as simply a tool that states *may*

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<sup>205</sup> See *supra* Section III.B.2.

<sup>206</sup> *PJM Interconnection, L.L.C.*, 190 FERC ¶ 61,084, at P 1 (2025) (RRI Order); *Cal. Indep. Sys. Operator Corp.*, 180 FERC ¶ 61,143.

<sup>207</sup> ERAS Order at P 202.

utilize to address their resource adequacy and/or reliability needs, even the retail choice states. But it also provides a process to ensure that proposed projects are shovel ready and are completed in a short time frame to address the looming resource adequacy and/or reliability needs. Finally, MISO is committed to working with stakeholders to address more generalized queue and industry challenges and ERAS will not change that.

#### **IV. DESCRIPTION OF PROPOSED TARIFF REVISIONS<sup>208</sup>**

The proposed Tariff revisions implement the ERAS process and are necessary to distinguish the key differences in how the ERAS process will operate in comparison to MISO's generator interconnection queue. Because the ERAS process is not a queue and is temporary in nature, it is important to clearly identify the differences for clarity and certainty. The instant filing includes ERAS-related revisions in Attachment X (Generator Interconnection Procedures), Attachment X, Appendix 1 (Interconnection Request), and Attachment X, Appendix 6 (Generator Interconnection Agreement).

##### **A. Attachment X, Generator Interconnection Procedures**

##### **1. GIP Section 1**

Section 1 contains definitions that are used throughout the GIP and its supporting attachments. The proposed new definitions are necessary to implement the ERAS process and to provide clarity and consistency throughout the GIP. In addition to new definitions related to ERAS processes, MISO proposes to revise the definition of "Commitment Projection," "Potential MW Total," and "JTIQ Screening Group, to incorporate MISO ERAS and SPP ERAS into the JTIQ Portfolio and reflect the capacity they will use.<sup>209</sup> "Interconnection Request" was edited to include a request for new generation capacity to be studied under ERAS. This change is necessary to properly document that ERAS projects will be studied separately from MISO's generator interconnection queue and will require a separate election in Appendix 1 to the GIP ("Interconnection Request for a Generating Facility") to be studied as an ERAS project. MISO added additional proposed revisions to include ERAS projects in JTIQ-related definitions to provide clarity that ERAS projects will be considered for JTIQ. MISO also added the definitions

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<sup>208</sup> The proposed revisions for each proposal are presented together and in logical order for the purpose of discussion, not in order of importance.

<sup>209</sup> These updates reference both MISO's ERAS and SPP's ERAS projects given that SPP has filed its ERAS process in Commission Docket No. ER25-2296 and both MISO and SPP have filed revisions to update their JOA to reflect these processes in Commission Docket Nos. ER25-2297 and ER25-2298. The revised definitions proposed in this filing align with those filed in Commission Docket Nos. ER25-2297 and ER25-2298. In the event that the Commission accepts MISO's ERAS process but not SPP's, MISO would update the ERAS references in these definitions accordingly.



of Expedited Resource Addition Study (ERAS), Expedited Resource Addition Study Quarterly Study Period, Expedited Generator Interconnection Agreement (EGIA), Local Resource Zone (LRZ), and Relevant Electric Retail Regulatory Authority (RERRA), the latter two of which are defined in Module A.<sup>210</sup>

## **2. GIP Section 2.1**

MISO proposes to add a subsection i to GIP Section 2.1 that governs the application of interconnection procedures.

- i. An Interconnection Request for a new Generating Facility to be studied through the Expedited Resource Addition Study process shall be evaluated pursuant to Section 3.9.2.

This subsection explains that a request for ERAS should be evaluated according to the procedure in GIP Section 3.9.2, which is a new Section MISO proposes to add for the implementation of the ERAS process. This addition is necessary to distinguish the process for evaluating requests for ERAS from other projects entering MISO's generator interconnection queue.

## **3. GIP Section 3.3.1**

MISO proposes to revise Section 3.3.1, which encompasses the procedures for submitting an Interconnection Request. The revisions include clarifying language surrounding the timeline for submitting ERAS Interconnection Requests, where applications will be accepted while the ERAS process is in place, and where the application timeline will be posted to the MISO website. MISO also proposes to increase the Non-Refundable Deposit 1 (D1) to \$100,000 for ERAS projects and to require an entry milestone (M2) of \$24,000 per Megawatt for new Interconnection Service requested to ensure that ERAS projects are "shovel ready" and to prevent speculative projects from submitting to ERAS. MISO's DPP process contains three phases where three milestone payments are required. The PGIA process requires \$8000 per Megawatt for each phase provided upfront, so to facilitate a similar, "one phase" ERAS study, MISO proposes to implement an equivalent milestone payment of \$24,000 per Megawatt.

MISO also proposes revising Section 3.3.1 to require an ERAS Interconnection Request to identify the claimed resource adequacy and/or reliability need(s). The revisions include requiring the Interconnection Request to provide information including the location of any load as well as the MW amount of the proposed ERAS project. The revisions also require the ERAS project be located within the same Local Resource Zone, unless the project applicant can demonstrate that the use of a Generating Facility not in the same LRZ was included in a resource filing or other

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<sup>210</sup> MISO Tariff, Module A.

submission made to the RERRA. Finally, the revisions limit the amount of Interconnection Service requested by the ERAS project to no more than 150% of the identified MW need. These changes were made to tighten the connection between the verified resource adequacy and/or reliability need with the relevant RERRA.

...

An Interconnection Request for a Generating Facility requesting processing through the Expedited Resource Addition Study shall identify the claimed resource adequacy and/or reliability need(s) for which it is being submitted. This should include the location (i.e. the county and state, the electrical bus location(s), and the Local Resource Zone) of any load to be served via the off take agreement as well as the peak demand for electricity expected over any one hour period in MWs—the amount of Interconnection Service requested must not exceed 150 percent of the identified MW need. The Generating Facility and the associated resource adequacy and/or reliability need(s) must be within the same Local Resource Zone, unless the resource adequacy and/or reliability need is included in a resource filing made to the RERRA that is providing the verification required in Section 3.9.1.

...

To further demonstrate that a project is “shovel ready,” all documentation, milestone payments, deposits and any necessary data is required at the time of application. These up-front requirements will allow MISO to complete the study process within its estimated 90-day timeframe. Additionally, at the time of application, Interconnection Customers must identify the resource adequacy and/or reliability need for which the project is being submitted. MISO also proposes to require that ERAS projects have a Commercial Operation Date within three calendar years from the submission date of the Interconnection Request. All ERAS projects are eligible to use the grace period of up to three years as documented in GIA Article 2.3.1. MISO’s accepted queue reform filing<sup>211</sup> and proposed Order No. 2023 compliance<sup>212</sup> will help MISO facilitate the reduction of the DPP cycle to the approximate one year timeline by 2028, and ERAS projects will help address documented load growth need prior to reducing the DPP cycle timeline.<sup>213</sup>

#### **4. GIP Section 3.4**

MISO proposes to add clarifying language stating, “except for projects submitted through the ERAS process as noted in Section 3.9,” to this section governing OASIS posting requirements to clarify that MISO intends to publish the list of projects submitted for ERAS on its public

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<sup>211</sup> See Queue Reform Filing.

<sup>212</sup> *Midcontinent Independent System Operator, Inc.*, Compliance Filing for Order Nos. 2023 and 2023-A, Docket No. ER24-2046-000 (May 16, 2024) (“Order 2023 Compliance Filing”).

<sup>213</sup> See *Midcontinent Indep. Sys. Operator, Inc.*, 178 FERC ¶ 61,141 (2021) (“Timeline Reduction Filing”).

website. Although MISO does not publish identifying information for projects submitted to the DPP interconnection queue, MISO believes that ERAS projects require additional transparency for interested parties in the MISO region.

## **5. GIP Section 3.5**

MISO proposes to revise GIP Section 3.5 to add a reference to newly created GIP Section 3.5.2, explained further below, and to clarify that coordination procedures for affected systems apply except as provided by “Sections 3.5.1 and 3.5.2” of the GIP. MISO proposes to revise GIP Section 3.5.1.1 subsection (1) to clarify that ERAS projects shall be included in a JTIQ Screening Group, along with projects in the generator interconnection queue. As discussed in prior stakeholder meetings, MISO intends to consider ERAS projects for JTIQ. This revision is necessary to ensure that ERAS projects are properly included in JTIQ Screening Groups along with projects from MISO’s DPP interconnection queue.

MISO proposes to add Section 3.5.2 to incorporate the application of the Affected Systems Coordination Procedures to Interconnection Requests included in ERAS. The revisions will enable MISO to promptly provide any affected systems analysis received from the affected system to the ERAS Interconnection Customer. The revisions also explain that if the affected systems studies and cost information are not available at the time the EGIA is tendered, the EGIA will include an obligation to execute any agreements for the studies. The proposed revisions state that ERAS Interconnection Requests will be submitted to the applicable system study individually and on serial basis. Finally, the revisions require the queue priority date for ERAS projects as the date MISO starts the ERAS System Impact Study unless the controlling agreement between MISO and the affected system provides an alternate queue priority date for ERAS projects. These revisions are needed given that ERAS projects will be studied serially and that existing affected systems coordination rules geared towards multi-phase group studies cannot apply without adjustment. The proposed rule set ensures timely affected systems review using a process appropriate for the accelerated ERAS study process while still allowing needed flexibility for MISO and individual system partners to make adjustments needed for the specific system.

## **6. GIP Sections 3.9 and 3.9.1**

MISO proposes to add new GIP Section 3.9 to encompass the necessary processes and implementation details for ERAS Interconnection Requests. Proposed Section 3.9.1 explains the requirements for submitting a project to ERAS, which include the requirements listed in GIP Section 3.3.1, as well as a written verification from a RERRA that states either (1) the new, incremental load addition claimed by the Interconnection Customer is valid and not already included in a plan or other procedure under the RERRA’s purview, or (2) addresses a resource adequacy deficiency as determined by the RERRA, state, LSE, or Interconnection Customer and supported by evidence from a state energy forecast, state proceeding, resource plan, response to a request for proposals, or other state or RERRA process.

The revisions to Section 3.9.1.1(iii) also enable retail choice states (Illinois and Michigan) to participate in ERAS. The revisions allow an Interconnection Customer to participate if the new facility addresses a resource adequacy deficiency and will serve retail choice load. If the Interconnection Customer is serving retail choice load, it will not be required to include a verification from a RERRA in accordance with state policy, but MISO will notify the respective RERRA about the request and give that RERRA an opportunity to object to the ERAS application. The Interconnection Customer will also provide evidence of determination of need as described in Section 3.9.1.1(ii). MISO is proposing this language to enable retail choice state participation in ERAS and to reflect how RERRAs operate differently in the retail choice states.

The proposed RERRA language also clarifies that the RERRA verification is not intended to provide evidence of need or suitability of an ERAS project in a separate state or RERRA regulatory process. It is simply a requirement of the MISO ERAS application process that will allow projects to have completed study and be available without prejudicing the ability of the RERRA to make final permitting or certificating decisions according to their laws and regulations.

In the revisions to Section 3.9.1.2, MISO also proposes to require the Interconnection Customer provide an agreement showing that the project submitted to ERAS is intended to be used to meet a claimed resource adequacy and/or reliability need. The agreement may take several forms, as documented in Section 3.9.1, depending on the type of project and associated parties. This language is intended to limit ERAS projects to those needed to meet a resource adequacy and/or reliability need, while also ensuring that certain project types or submitters are not excluded from participating in ERAS.

As previously explained above, the language developed in Section 3.9.1 regarding the RERRA verification and the Interconnection Customer's requirement to provide an executed agreement showing that the project submitted will be used to meet the claimed resource adequacy and/or reliability need were discussed at length with stakeholders and the MISO states before MISO's original ERAS filing and were adjusted to address the Commission's guidance. These proposed revisions are intended to provide sufficient documentation displaying the need to be included in ERAS while also taking into consideration the varied processes of the states in MISO's footprint and the need for the ERAS process to fit within the different regulatory requirements of the MISO states. Because the majority of MISO states are vertically integrated, it is important to consider the states' involvement in resource adequacy as discussed in this letter.

Finally, MISO proposes to add language stating that no changes shall be made to the Interconnection Request after submission. Because the timeline from submission to an executed EGIA is 90 days, this language is necessary to ensure that ERAS projects are studied expeditiously and can be online as soon as possible to meet the stated resource adequacy and/or reliability need.

## **7. GIP Section 3.9.2**

MISO proposes to add GIP Section 3.9.2 to facilitate the evaluation process of projects seeking to use ERAS.

The Transmission Provider will evaluate Expedited Resource Addition Study requests in the order in which they are submitted using the time stamp from submission. The Transmission Provider will limit the maximum number of the ERAS Interconnection Requests studied in the ERAS process to no more than 68 projects total until the sunset date noted in Section 3.9.9. The Transmission Provider has carved out a maximum of 8 Interconnection Requests of the total 68 Interconnection Requests that may be submitted in accordance with 3.9.1.1(iii) to serve retail choice load and a maximum of 10 Interconnection Requests of the total 68 Interconnection Requests that may be submitted by Independent Power Producers (IPPs) with agreements with entities other than Load Serving Entities to ERAS until the sunset date noted in Section 3.9.9.

The Transmission Provider will limit the maximum size of each ERAS Quarterly Study Period to no more than 10 Interconnection Requests. If more than 10 Interconnection Requests are submitted for one ERAS Quarterly Study Period, those surpassing the limit will be studied in a subsequent ERAS study cycle in the order in which they were submitted. If an ERAS Interconnection Request is within a similar geographical area or impacts the same constraint as another ERAS Interconnection Request within the same ERAS Quarterly Study Period, as defined in the Generator Interconnection Business Process Manuals, then the later submitted request(s) will be studied in a subsequent ERAS study cycle.

The revised language sets out how MISO plans to implement the ERAS project cap. MISO will limit the maximum number of the ERAS Interconnection Requests studied in the ERAS process to no more than 68 projects total until the ERAS sunset date noted in Section 3.9.9. MISO has determined two separate carve outs from the total 68 projects: (1) a maximum of 8 Interconnection Requests that may be submitted to serve retail choice load, and (2) a maximum of 10 Interconnection Requests that may be submitted by Independent Power Producers (“IPP”). The remaining 50 Interconnection Requests may be utilized by other Interconnection Customers in non-retail states.

The proposed language explains that MISO will also cap the number of projects studied in each ERAS study cycle. MISO will limit the maximize size of each ERAS Quarterly Study Period to no more than 10 Interconnection Requests. MISO will complete a screening process on the first 10 Interconnection Requests received per ERAS cycle to determine whether any of the projects are located in the same geographic area or impacting the same constraint. If two or more projects are located in the same geographic area or impact the same constraint as defined by MISO’s Generator Interconnection Business Process Manuals, then the first project received as determined

by submission time will remain in the cycle and the other project(s) will be deferred to the next available ERAS cycle.

Other proposed language explains that projects will be evaluated in the order in which they are submitted. It also provides that a project that does not meet the ERAS requirements will be automatically moved to the generator interconnection queue unless the Interconnection Customer informs MISO that it does not want to be processed through the DPP if it fails to qualify for ERAS. Although the project moving from ERAS will be required to meet all requirements of the generator interconnection queue, the automatic transfer to the interconnection queue will prevent projects from having to resubmit an additional Interconnection Request and will provide a more efficient application process. Proposed language also clarifies that if the project is found to be ineligible for ERAS, the project will lose its Non-Refundable Deposit D1. The risk of losing a large deposit if determined to be ineligible for ERAS will encourage parties to only submit projects that they are certain will meet the strict ERAS requirements.

Proposed Section 3.9.2 also documents the process for projects currently in the generator interconnection queue to transfer to ERAS for evaluation. In the situation where a project in the generator interconnection queue is eligible to participate in ERAS and chooses to transfer to the ERAS process, proposed language also clarifies that the project will forfeit its Non-Refundable Deposit D1 and will be subject to withdrawal penalties per Sections 7.6.2.1.1 and 7.8. This proposed addition is necessary to ensure that projects dropping out of the generator interconnection queue do not harm remaining projects in their respective cycles. Similarly, proposed language in Section 3.9.2 limits projects from transferring from the generator interconnection queue to ERAS to only those that have not reached Decision Point II. This language is required to ensure that projects remaining in the generator interconnection queue are not harmed by restudies that occur after projects drop out after Decision Point II. If a project withdraws after Decision Point II, the proposed ERAS revisions will allow it to submit to ERAS after a period of one year from the withdrawal date. This language is necessary to prevent late stage withdrawals from the generator interconnection queue that might harm other projects in the interconnection queue cycle.

## **8. GIP Section 3.9.3**

MISO proposes to add a new GIP Section 3.9.3 to describe the studies that will take place for ERAS projects, which mirror those performed for Interconnection Requests in the DPP seeking NRIS, as described noted in GIP Sections 3.2.1.2 and 3.2.2.2. MISO intends to perform all ERAS studies within 60 Days after kickoff to help ERAS projects quickly obtain an executed EGIA. ERAS projects will be evaluated on a rolling basis during each Quarterly Study Period. The studies will be performed serially, based on submission date. serial studies are ideal for ERAS projects since there will be a considerably smaller number of proposed projects spread over a larger geographic area, thus they will not be grouped into clusters which would require late stage restudies.

Proposed language also explains that any Affected System Study results, if available, will be included at the time of the final ERAS study. If the Affected System Study results are unavailable at the time of the final study, those results will be provided separately when received from the applicable Affected System.

## **9. GIP Section 3.9.4**

MISO proposes to add the following Section 3.9.4, which is titled Notice to Proceed to EGIA.

Interconnection Customer requesting to be included in ERAS shall inform Transmission Provider of its election to proceed within five (5) Calendar Days after receiving the draft results of the Expedited Resource Additions Study. Interconnection Customer that fails to provide an election to proceed within five (5) Calendar Days will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP. EGIA execution shall occur no later than 30 Calendar Days after receiving Interconnection Customer's election to proceed.

This language is necessary to distinguish between the shorter timeline for ERAS and the general timeline for providing a notice to proceed for a DPP interconnection project. The shortened five Calendar Day timeline is necessary to allow Customers to execute their EGIA within 90 days from kickoff of the Quarterly Study Period.

## **10. GIP Section 3.9.5**

Proposed GIP Section 3.9.5 governs the timeline and necessary requirements regarding tender of the draft pro forma EGIA and JTIQ applicability, and also points to Sections 11.1 through 11.4 of the GIP governing procedures such as MISO's tender of the draft EGIA, negotiations, and execution of the EGIA. This proposed Section provides a five Business Day timeline for MISO to tender a draft *pro forma* EGIA after receiving notification of the Customer's intent to proceed to EGIA.

Due to the varied nature of MISO's and SPP's processes related to JTIQ Service Agreements, proposed revisions provide a path forward for JTIQ eligible ERAS projects if SPP's JTIQ Service Agreement has not been provided to the Interconnection Customer prior to the tender of the draft EGIA. If the SPP JTIQ Service Agreement has not been received at the time of MISO's tender of the EGIA, proposed language requires JTIQ eligible ERAS projects to include a milestone in GIA Appendix B requiring the parties to execute or request the unexecuted filing of an SPP JTIQ Service Agreement within 15 Calendar Days after such agreement has been tendered to the Interconnection Customer. Proposed language also states that ERAS Interconnection Requests included in a JTIQ Participation Group shall adhere to all JTIQ procedures and execute JTIQ Service Agreements as applicable.

### **11. GIP Sections 3.9.6, 3.9.6.1, 3.9.6.2, and 3.9.6.3**

Proposed GIP Section 3.9.6 and its subparts document the process for obtaining refunds of study deposits and milestone payments in the ERAS process.

Proposed GIP Section 3.9.6.1 governs applicable refunds of the Study Deposit (D2). As with generator interconnection requests, ERAS D2 study deposit amounts are based on Megawatt amount of new interconnection service of the ERAS project as stated in GIP Section 3.3.1. The Interconnection Customer will be charged the actual amount of the Expedited Resource Addition Study and will be required to pay any additional costs or will be refunded any overages as applicable.

Proposed GIP Section 3.9.6.2 details the process for receiving a refund of the ERAS milestone payment M2. ERAS projects are eligible to receive a 100% refund of M2 upon withdrawal prior to execution of the EGIA. If an ERAS project withdraws after execution of the EGIA, the project is only eligible to receive a refund of any remaining M2 milestone after meeting the Initial Milestone Payment and/or Network Upgrade costs memorialized in the EGIA.

Should a project withdraw after execution of the EGIA, proposed Section 3.9.6.3 documents the process for providing the initial payment to the Transmission Owner, which will occur within forty-five Calendar Days from the effective date of the EGIA. If the M2 provided by the Interconnection Customer exceeds the initial payment amount, MISO will provide a refund of any remaining M2 within 45 Calendar Days of the effective date of the EGIA. If the Interconnection Customer's M2 is less than the initial payment, the proposed language of 3.9.6.3 requires the Interconnection Customer to provide the remaining portion of the initial payment to the Transmission Owner.

Proposed language in GIP Section 3.9.6.3 also clarifies that Interconnection Customers that withdraw after execution of the EGIA by all parties, or upon the filing of an unexecuted EGIA, will be liable for any Network Upgrade costs documented in the EGIA, including Network Upgrades arising from the Affected System Study process. This language is necessary to ensure that only viable projects that can meet the requirements of ERAS apply to participate in the ERAS process. In the event that a viable project must withdraw after execution of the EGIA, this language is necessary to ensure that no remaining projects are harmed by the withdrawal and Network Upgrades are built as planned.

### **12. GIP Section 3.9.7**

MISO proposes to add new GIP Section 3.9.7, which is titled Transfer of Ownership of Expedited Resource Addition Study Request.



An Interconnection Customer participating in the Expedited Resource Addition Study may transfer its Interconnection Request to another entity only after execution of the EGIA or filing the EGIA unexecuted. The new entity must maintain the eligibility requirements per Sections 3.3.1 and 3.9.1.

This language is necessary to prevent transfers prior to EGIA execution that might slow down the timeline for studying an ERAS project and ultimately delay the ability for MISO to move ERAS projects to EGIA execution within 90 days from kickoff. Prohibiting any changes to an ERAS project prior to EGIA execution will allow MISO to maintain its proposed ERAS timeline while allowing projects the flexibility to transfer the project to a new owner after EGIA execution. Similar to requirements for the generator interconnection queue, any transferee must maintain the applicable requirements to remain a valid ERAS project after EGIA execution.

### **13. GIP Section 3.9.8**

MISO proposes to add new GIP Section 3.9.8, titled Modifications of Expedited Resource Addition Study Request.

After entering the Expedited Resource Addition Study as defined in Section 3.9.3, no changes to the In-Service Date or Commercial Operation Date of the Generating Facility is permitted via Section 4.4.4. An ERAS Interconnection Request that is deferred to the next available ERAS Quarterly Study Period will be allowed to extend its In-Service Date or Commercial Operation Date to be no more than three calendar years from the kickoff of the ERAS Quarterly Study Period in which its application is studied. At the completion of the Expedited Resource Addition Study, the Commercial Operation Date and In-Service Date shall be set forth in the EGIA.

This language is necessary to ensure that ERAS projects are able to meet the resource adequacy and/or reliability need within the timeframe allotted by ERAS. The proposed ERAS COD requirements set forth in GIP Section 3.3.1 are specifically for generation needed to meet load intended to come online while ERAS is in place. Disallowing changes to the In-Service Date or COD after entering ERAS creates the certainty necessary to ensure that these projects will meet the need identified in the Interconnection Request and will prevent projects with uncertain timelines from entering ERAS.

#### **14. GIP Section 3.9.9**

MISO proposes to add new GIP Section 3.9.9, titled Sunset of Expedited Resource Addition Study Process.

Following the effective date of the Tariff revisions accepted in Commission Docket No. ER25-\_\_\_\_, the Transmission Provider will terminate the ERAS process at the earlier of the completion of sixty-eight ERAS Interconnection Request studies or August 31, 2027. In the event the Transmission Provider determines the sunset date should be extended, the Transmission Provider shall submit an additional filing to the Commission pursuant to Section 205 of the Federal Power Act seeking such later sunset date. Upon termination of ERAS, the Transmission Provider will no longer accept new ERAS Interconnection Requests. Any ERAS Interconnection Requests accepted but cannot be studied due to the sunset of the ERAS process will automatically move to the standard Definitive Planning Phase queue unless the customer chooses to withdraw. If deemed ineligible for the ERAS process, the project will forfeit its Non-Refundable Deposit D1.

This language is necessary to provide certainty that ERAS is a temporary process and that MISO intends to use ERAS for a limited period of time to meet generation shortages due to reasons explained above. ERAS will automatically sunset at the earlier of the completion of 68 ERAS Interconnection Request studies or August 31, 2027. The ERAS process is intended to fill the gap created by current queue backlogs and projects with GIAs yet to come online by providing expedited treatment for needed projects to be studied and come online quickly. As previously stated, the ERAS process is intended to be temporary and to fulfill the purpose of meeting generation needs during the short time period prior to the ERAS sunset date. MISO does not intend to request additional time for ERAS, but should MISO determine that additional time is needed to process ERAS projects to fill the aforementioned gap, MISO will submit an additional 205 filing and will justify the need for additional time.

#### **15. GIP Section 5.13**

MISO proposes to add new GIP Section 5.13, titled Transition to ERAS Process.

All requests for the Expedited Resource Addition Study that are submitted to the Transmission Provider after August 6, 2025 will be subject to the revised Tariff requirements accepted in Docket No. ER25-\_\_\_\_.

MISO proposes to begin the first ERAS Quarterly Study Period on September 2, 2025, which will be the first Quarterly Study Period after the effective date of these revisions, August 6, 2025.

#### **16. GIP Section 7.2.1**

MISO proposes to revise GIP Section 7.2.1, subpart (ii) to add the following language:

Reasonable evidence of Site Control for one hundred percent (100%) of the mileage of the Generating Facility's Interconnection Facilities for the Expedited Resource Addition Study request must be received at the time the application is submitted. The financial security in lieu of Site Control for the Generating Facility's Interconnection Facilities will not be accepted for an Expedited Resource Addition Study request.

Increased Site Control requirements for the Generating Facility's Interconnection Facilities (in conjunction with the accepted increased Site Control requirements under 7.2.1<sup>214</sup>) will ensure that projects submitted to ERAS are "shovel ready" and able to quickly meet the needs of the load they seek to service. Current interconnection queue Site Control requirements only require 50% Site Control of the Interconnection Customer's Interconnection Facilities at the time of submission, so this increased Site Control requirement will encourage only ready projects to submit to the ERAS process. Similarly, disallowing financial security in lieu of Site Control will prohibit any projects from being eligible for ERAS if it is unable to obtain the proper permits or siting requirements. Both updates to Site Control requirements will ensure that only "shovel ready" projects apply and will allow ERAS projects to quickly move to EGIA execution.

#### **17. GIP Section 7.3.1.4**

MISO proposes to add a reference to ERAS projects in Section 7.3.1.4 to clarify that projects from the DPP and ERAS will be notified if included in a JTIQ Screening Group. Although not part of the DPP, ERAS projects may impact a JTIQ Upgrade and should be subject to the same rules as DPP projects with respect to JTIQ. ERAS projects will be eligible for inclusion in the JTIQ Screening Group, Participation Group, and Commitment Groups based on the same criteria

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<sup>214</sup> See Queue Reform Filing at 10.

that are applied to DPP projects. This revision is necessary to ensure that ERAS projects are included in the JTIQ construct and do not get a free ride.<sup>215</sup>

### **18. GIP Section 7.3.2.3.1**

MISO proposes to add “including ERAS projects not otherwise subject to Transmission Provider’s three-phase DPP” in subpart 1, to clarify that ERAS projects that are part of a JTIQ Screening Group will be subject to additional Affected System analysis, as well as analysis required in Section 7.3.2.3 of the GIP. The additional analysis determines the impact of an ERAS project on the SPP system through Expanded Scope Analysis and Supplemental Affected System Analysis as documented in subparts a and b of this section and the inclusion of the aforementioned edits ensures that applicable ERAS projects will be studied similarly to DPP projects in these instances.

### **19. GIP Section 11.1**

MISO proposes to revise Section 11.1 to include the distinction that ERAS projects will not contain restudies and that tender of the draft EGIA will occur after the Interconnection Facilities Study initiated through ERAS. MISO also proposes to revise this Section to clarify that ERAS Interconnection Requests tender of the EGIA will occur on a different timeline than DPP projects, which timeline for tender is memorialized in new GIP Section 3.9.5. These edits are necessary to properly document the shortened timeline for tender of ERAS projects and the differences in timing between ERAS projects with one study and DPP projects with multiple studies.

### **20. GIP Section 11.2 and 11.2.1**

MISO proposes to revise Section 11.2 to clarify that ERAS projects will have a shorter, 5 Business Day timeline to return comments on the draft EGIA. MISO also proposes to revise this Section to clarify that MISO shall tender a revised draft EGIA after 5 Business Days of receiving the comments. For ERAS projects, negotiations of EGIAS shall be no more than 20 Business Days from the notice to proceed in Section 3.9.4. Revisions to 11.2.1 clarify that ERAS projects are unable to postpone the start of the EGIA negotiation period.

These edits are needed to shorten the negotiations timeframe to keep the ERAS process to approximately 90 days from kickoff to EGIA execution. This shortened timeframe will ensure that ERAS projects are able to execute the EGIA quickly and come online within the timeframe allotted to serve the project’s identified need.

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<sup>215</sup> MISO notes that it will be necessary to update some language in its Joint Operating Agreement with the Southwest Power Pool, Tariff Rate Schedule 6 (“SPP JOA”), which, for MISO, discussed JTIQ only in terms of DPP projects. This language reflects the fact that ERAS did not exist at the time. MISO has discussed updating the JOA with SPP and plans to make a joint filing to properly references ERAS before the requested effective date for this filing.

## **21. GIP Section 11.3**

MISO proposes to revise Section 11.3 to provide that for ERAS projects the Transmission Provider shall provide the Interconnection Customer and Transmission Owner a final EGIA within 10 Business Days after completion of the negotiation period in accordance with Section 11.2. These revisions also provide that the parties must execute the EGIA or request to file unexecuted within 10 Business Days of tender of the final EGIA, otherwise the project will be deemed to have withdrawn its Interconnection Request. These revisions are required to properly document the shorter timeline for ERAS projects as compared to the timeline for DPP GIA execution as memorialized in this Section.

### **B. Attachment X, Appendix 6, Generator Interconnection Agreement**

#### **a. Article 1 Definitions**

MISO proposes to revise Article 1 to include ERAS-related definitions consistent with the GIP, as applicable, and to provide updates to JTIQ-related definitions to clarify that MISO ERAS and SPP ERAS projects will be included in JTIQ, also as provided in the GIP.

#### **b. Article 2.3.3**

MISO proposes to revise Article 2.3.3 to state that ERAS projects must provide all security required in Section 2.4 prior to any termination request for an ERAS project becoming effective. This language is necessary to ensure that projects are held liable for any Network Upgrades that would be memorialized in an EGIA or related agreement and to prevent harm to other projects due to the withdrawal.

#### **c. Article 2.4**

MISO proposes to revise Article 2.4 to specify that should an ERAS project terminate, it will be liable for any Network Upgrade costs identified in the EGIA or that would be memorialized in an FCA, MPFCA, or JTIQ Service Agreement. If the final costs have not been determined, the Customer must provide security according to the most recent estimate. Additionally, the Transmission Provider will provide any applicable refunds of payments or security within 90 Calendar Days of providing the final invoice of NUs to the Customer. As stated above, the proposed language is necessary to ensure that only “shovel ready” projects submit to ERAS, knowing those projects will assume the risk of paying for any Network Upgrades identified in an EGIA or that would be memorialized in an FCA, MPFCA, or JTIQ Service Agreement. This language will ensure that no other projects are affected by the termination.

**d. Appendix B Milestones**

MISO proposes to add new milestone 1f to the *pro forma* Generator Interconnection Agreement:

|     |                                                                                                                                                                                                                               |                                                |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| 1f. | Enter into any agreement required by an Affected System for the study, construction, or funding of a network upgrade to mitigate impacts (for Interconnection Requests processed through ERAS) pursuant to GIP Section 3.5.2. | Within 15<br>Calendar<br>Days after<br>tender. |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|

This revision is needed to ensure that ERAS interconnection requests are subject to the same obligations as other Interconnection Requests with respect to network upgrades identified by affected systems. The requirement to execute an agreement with the affected system to mitigate any impacts from the ERAS Interconnection Request within 15 days after agreement tender is included in proposed GIP Section 3.5.2. It is appropriate to reflect this commitment in a GIA milestone given that, due to the accelerated timing of ERASs, an affected system may first be able to tender their form of agreement after the ERAS Interconnection Customer already has executed their GIA. Including milestone 1f in Appendix B ensures that this obligation remains enforceable even after the customer has an effective GIA. This puts ERAS Interconnection Customers on the same footing as DPP Interconnection Customers.

**C. Attachment X, Appendix 1, Interconnection Request for a Generating Facility**

MISO proposes to revise Attachment X, Appendix 1 to add a check box in Section 2 indicating that the interconnection Request is being submitted as an ERAS project.

MISO also proposes to add subpart s to Section 4, stating that at the time of application to ERAS, the Interconnection Customer must provide information about the resource adequacy and/or reliability need that the ERAS project is intended to address. These proposed revisions are needed to properly memorialize the requirements to be included in ERAS, which includes the Interconnection Customer identifying resource adequacy and/or reliability need the project claims to meet. The ERAS process is intended to facilitate matching generation with load within the next few years, so requiring a specific need will prevent projects from submitting to ERAS simply to circumvent the generator interconnection queue process. This proposed language will ensure that ERAS projects are limited to those that truly identify a claimed resource adequacy and/or reliability need.

## **V. DOCUMENTS SUBMITTED WITH THIS FILING**

In addition to this Transmittal Letter, the documents submitted with this filing are:

Tab A – Redlined Tariff Sheets<sup>216</sup>;

Tab B – Clean Tariff Sheets; and

Tab C – Prepared Direct Testimony of Andrew Witmeier

## **VI. PROPOSED EFFECTIVE DATE, AND REQUEST FOR EXPEDITED ACTION AND SHORTENED COMMENT PERIOD**

MISO requests that the proposed Tariff revisions be made effective on August 6, 2025. To give certainty to stakeholders and allow them time to prepare Interconnection Requests in advance of the first ERAS deadline, MISO respectfully requests the Commission issue an order on an expedited basis by July 22, 2025. MISO needs to address the looming resource adequacy and reliability needs identified in this filing as expeditiously as possible and stakeholders will need to know if the process has been accepted sufficiently in advance of the deadline to plan their projects. Thus, MISO can accommodate the ordinary 60 day timeframe for revisions becoming effective and need not seek waiver for a shortened effective date provided that an order is issued within 45 days. The original ERAS proposal was discussed extensively with stakeholders and the main refinements made to that proposal were addressed in the May PAC Meeting and tailored to the Commission's guidance issued on May 16, 2025.

To enable the Commission's consideration of this filing, MISO also requests that the Commission establish a ten (10) day comment period for this filing – June 16, 2025. As noted above, this filing represents a refinement to MISO's original ERAS proposal and all affected parties have had ample notice of that filing and the Commission's guidance responded to in this submission. This effective date will ensure that the proposed changes can be implemented in advance of the September 2, 2025 ERAS Quarterly Study Period start date.

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<sup>216</sup> Language currently pending before the Commission in the following, unrelated docket is highlighted in yellow: Docket No. ER25-2417-000. MISO requests that the Commission treat such highlighted language as subject to the outcome of the pending proceeding. MISO commits to file any revisions to this highlighted language as necessary to comply with any Commission order in the proceeding. MISO has removed language that has a future effective date of June 1, 2029 and is pending under Docket No. ER22-1640-006. In addition, MISO has removed pending language filed in Docket No. ER24-2046-000, and any changes will be based on the outcome of that docket. If needed, MISO commits to make a subsequent filing with the Commission to reflect the most up-to-date version of the then-current Tariff provisions prior to the effective dates of the language in Docket Nos. ER22-1640-006 and ER24-2046-000.

MISO submits that the requirements of Section 35.13 of the Commission's regulations, 18 C.F.R. § 35.13 (2024), that have not been specifically addressed herein are inapplicable to this filing. To the extent that the Commission determines any of these sections to be applicable to this filing, MISO respectfully requests waiver of the requirements of such sections.

## **VII. COMMUNICATIONS, NOTICE, AND SERVICE**

Correspondence and communication with respect to this filing should be sent to the following individuals, which MISO requests to also be included on the official service list:

Sarah Nieman\*  
Christopher D. Supino\*  
Midcontinent Independent System  
Operator, Inc.  
720 City Center Drive  
Carmel, IN 46032  
Telephone: 317.249.5400  
sanieman@misoenergy.org  
csupino@misoenergy.org

\*Persons authorized to receive service

MISO notes that it has served a copy of this filing electronically, including attachments, upon all Tariff Customers under the Tariff, MISO Members, Member representatives of Transmission Owners and Non-Transmission Owners, as well as all state commissions within the Region. The filing has been posted electronically on MISO's website at <https://www.misoenergy.org/legal/ferc-filings/> for other interested parties in this matter. In addition, MISO has served a copy of this filing electronically on all parties to this agreement.

## **IX. CONCLUSION**

MISO's proposed ERAS reforms are just and reasonable, are not unduly discriminatory or preferential, and thus satisfy the requirements of FPA section 205(a). For all of the foregoing reasons, MISO respectfully requests that the Commission: (1) accept this filing with the August 6, 2025 effective date; (2) issue an order by July 22, 2025, and (3) grant waiver of any Commission regulations that the Commission may deem applicable to this filing.



The Honorable Debbie-Anne A. Reese  
June 6, 2025  
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Respectfully submitted,

/s/ Sarah Nieman

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Attachments

Tab A – Redline Tariff Sheets

## ATTACHMENT X

### GENERATOR INTERCONNECTION PROCEDURES (GIP)

#### SECTION 1. DEFINITIONS.

**10 kW Inverter Process** shall mean the procedure for evaluating an Interconnection Request for a certified inverter-based Small Generating Facility no larger than 10 kW that uses the screen set forth in Section 14.

**Adverse System Impact** shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

**Affected System** shall mean an electric transmission or distribution system or the electric system associated with an Existing Generating Facility or of a higher queued Generating Facility, which is an electric system other than the Transmission Owner's Transmission System that is affected by the Interconnection Request. An Affected System may or may not be subject to FERC jurisdiction.

**Affected System Operator** shall mean the entity that operates an Affected System.

**Affiliate** shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

**Ancillary Services** shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission System in accordance with Good Utility Practice.

**Applicable Laws and Regulations** shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority having jurisdiction over the Parties, their respective facilities and/or the respective services they provide.

**Applicable Reliability Council** shall mean the Regional Entity of NERC applicable to the Local Balancing Authority of the Transmission System to which the Generating Facility is directly interconnected.

**Applicable Reliability Standards** shall mean Reliability Standards approved by the Federal Energy Regulatory Commission (FERC) under section 215 of the Federal Power Act, as applicable.

**Automatic Withdrawal Penalty** shall mean the penalty assessed by Transmission Provider to an Interconnection Customer that chooses to withdraw or is deemed to have withdrawn its Interconnection Request from Transmission Provider's interconnection queue in certain specified circumstances. The calculation of the Withdrawal Penalty is set forth in Section 7.6.2.1.1 of this GIP.

**Base Case** shall mean the base case power flow, short circuit, and stability databases used for the Interconnection Studies by Transmission Provider or Interconnection Customer.

**Base Case Data** shall mean base case power flow, short circuit and stability databases, including all underlying assumptions, and contingency lists. Such databases and lists, hereinafter referred to as Base Cases, shall include all (1) generation projects and (2) transmission projects, including merchant transmission projects that are proposed for the Transmission System for which a transmission expansion plan has been submitted and approved by the MISO Board.

**Breach** shall mean the failure of a Party to perform or observe any material term or condition of the Generator Interconnection Agreement.

**Breaching Party** shall mean a Party that is in Breach of the Generator Interconnection Agreement.

**Business Day** shall mean Monday through Friday, excluding Federal Holidays.

**Calendar Day** shall mean any day including Saturday, Sunday or a Federal Holiday. In the event that a period specified in this GIP is calculated in Calendar Days ends on a non-business day, such period shall be deemed to conclude on the following business day.

**Commercial Operation** shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

**Commercial Operation Date (COD)** of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed by the Parties pursuant to Appendix E to the Generator Interconnection Agreement.

**Commitment Projection** shall mean a projection of the number of MW expected to commit to the JTIQ Portfolio from [ERAS and](#) all [DPP](#) study clusters that already have passed DP1 as described in Section 9.4.2.e.ii of Rate Schedule 6 (MISO SPP-JOA).

**Common Use Upgrade** shall mean an Interconnection Facility, Network Upgrade, System Protection Facility, or any other classified addition, alteration, or improvement on the Transmission System or the transmission system of an Affected System, not classified under Attachment FF as a Baseline Reliability Project, Market Efficiency Project, or Multi-Value Project, that is needed for the interconnection of multiple Interconnection Customers' Generating Facilities and which is the shared responsibility of such Interconnection Customers.

**Confidential Information** shall mean any proprietary or commercially or competitively sensitive information, trade secret or information regarding a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, or any other information as specified in Article 22 of the GIA, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise, that is received by another Party.

**Connection Facilities** shall mean the Transmission Owner's Connection Facilities and the MHVDC Connection Customer's Connection Facilities, as defined in the MHCP.

**Contingent Facilities** shall mean those unbuilt Interconnection Facilities and Network Upgrades upon which the Interconnection Request's costs, timing and study findings are dependent, and if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing. Contingent Facilities may include facilities identified in MTEP that if delayed or not built could impact the timing of the Interconnection Request.

**Default** shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Generator Interconnection Agreement.

**Definitive Planning Phase** shall mean the Generator Interconnection Procedures process which leads to a Generator Interconnection Agreement. An Interconnection Customer enters the Definitive Planning Phase pursuant to GIP Section 7.2. The Definitive Planning Phase includes three distinct phases (Definitive Planning Phases I, II, and III) pursuant to Section 7 of the Generator Interconnection Procedures.

**Definitive Planning Phase Queue Position** shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, in the Definitive Planning Phase. The Definitive Planning Phase Queue Position is established based

upon the date Interconnection Customer satisfies all of the requirements of GIP Section 7.2 of the Generator Interconnection Procedures to enter the Definitive Planning Phase. All Interconnection Requests within the same Definitive Planning Phase cycle shall have equal priority (i.e. similarly queued).

**Demonstrated Capability** shall mean the continuous net real power output that the Generating Facility is required to demonstrate in compliance with Applicable Reliability Standards.

**Dispute Resolution** shall mean the procedure for resolution of a dispute between or among the Parties in which they will first attempt to resolve the dispute on an informal basis.

**Distribution System** shall mean the Transmission Owner's facilities and equipment, or the Distribution System of another party that is interconnected with Transmission Owner's Transmission System, if any, connected to the Transmission System, over which facilities Transmission Service or Wholesale Distribution Service under the Tariff is available at the time Interconnection Customer has requested interconnection of a Generating Facility for the purpose of either transmitting electric energy in interstate commerce or selling electric energy at wholesale in interstate commerce and which are used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among Local Balancing Authorities and other entities owning distribution facilities interconnected to the Transmission System.

**Distribution Upgrades** shall mean the additions, modifications, and upgrades to the Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the delivery service necessary to affect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

**Effective Date** shall mean the date on which the Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by the Commission, or if filed unexecuted, upon the date specified by the Commission.

**Emergency Condition** shall mean a condition or situation: (1) that in the reasonable judgment of the Party making the claim is imminently likely to endanger, or is contributing to the endangerment of, life, property, or public health and safety; or (2) that, in the case of either Transmission Provider or Transmission Owner, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission System, Transmission Owner's Interconnection Facilities or the electric systems of others to which the Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and blackstart shall be considered Emergency Conditions; provided that Interconnection Customer is not obligated by the Generator Interconnection Agreement to possess blackstart capability. Any condition or situation that results from lack of sufficient generating capacity to meet load requirements or that results solely from economic conditions shall not constitute an Emergency Condition, unless one of the enumerated conditions or situations identified in this definition also exists.

**Energy Displacement Agreement** shall mean an agreement between an Interconnection Customer with an Existing Generating Facility on the Transmission Provider's Transmission System and an Interconnection Customer with a proposed Generating Facility seeking to interconnect with Surplus Interconnection Service. The Energy Displacement Agreement specifies the term of operation, the Generating Facility Interconnection Service limit, and the mode of operation for energy production (common or singular operation).

**Energy Resource Interconnection Service (ER Interconnection Service)** shall mean an Interconnection Service that allows Interconnection Customer to connect its Generating Facility to the Transmission System or Distribution System, as applicable, to be eligible to



deliver the Generating Facility's electric output using the existing firm or non-firm capacity of the Transmission System on an as available basis. Energy Resource Interconnection Service does not convey transmission service.

**Engineering & Procurement (E&P) Agreement** shall mean an agreement that authorizes Transmission Owner to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

**Environmental Law** shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

**Existing Generating Facility** shall mean a Generating Facility that is either under construction or is in service, and has an unsuspended interconnection agreement with its host transmission provider.

**Expanded Scope Analysis** shall mean the analysis described in Section 9.4.2.d.iv.a of Rate Schedule 6 (MISO-SPP JOA).

**Expedited Resource Addition Study (ERAS)** shall mean the temporary procedure for expediting interconnection projects identified for claimed resource adequacy and/or reliability needs.

**Expedited Resource Addition Study (ERAS) Quarterly Study Period** shall mean the period of time in which ERAS Interconnection Requests are submitted to the Transmission Provider and compiled for study. There are four study periods in a year with the following start and end dates:

Quarter 1: The first Business Day of March through the last Business Day of May;

Quarter 2: The first Business Day of June through the last Business Day of August;

Quarter 3: The first Business Day of September through the last Business Day of

November;

Quarter 4: The first Business Day of December through the last Business Day of February.

**Expedited Generator Interconnection Agreement (EGIA)** shall mean the interconnection agreement for the Expedited Resource Addition Study established between the Transmission Provider and/or the Transmission Owner and the Interconnection Customer as set forth in Section 3.9 of this Attachment X. This agreement shall take the form of the Transmission Provider's *pro forma* Generator Interconnection Agreement modified for the Expedited Resource Addition Study. Unless otherwise provided in the GIP, all requirements applicable to the *pro forma* Generator Interconnection Agreement shall apply to the Expedited Generator Interconnection Agreement.

**Facilities Construction Agreement (FCA)** shall mean the form of facilities construction agreement, set forth in Appendix 8 to these Generator Interconnection Procedures. The FCA shall be used when an Interconnection Customer causes the need for the construction of Network Upgrades or System Protection Facilities on the transmission system of an Affected System.

**Fast Track Process** shall mean the procedure for evaluating an Interconnection Request for a certified Small Generating Facility no larger than five MW that includes the screen set forth in Section 14, customer options meeting, and optional supplemental review.

**Federal Holiday** shall mean a Federal Reserve Bank holiday for a Party that has its principal place of business in the United States and a Canadian Federal or Provincial banking holiday for a Party that has its principal place of business located in Canada.

**Federal Power Act** shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a *et seq.*

**FERC** shall mean the Federal Energy Regulatory Commission, also known as

Commission, or its successor.

**Final System Impact Study** shall mean the Interconnection System Impact Study performed during Definitive Planning Phase III.

**Force Majeure** shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include an act of negligence or intentional wrongdoing by the Party claiming Force Majeure.

**Generating Facility** shall mean Interconnection Customer's device(s) for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities and shall not include a SATOA as defined in Module A. A Generating Facility consists of one or more generating unit(s) and/or storage device(s) which usually can operate independently and be brought online or taken offline individually.

**Generating Facility Capacity** shall mean the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple energy production devices.

**Generating Facility Modification** shall mean modification to an Existing Generating Facility, including comparable replacement of only a portion of the equipment at the Existing Generating Facility.

**Generating Facility Replacement** shall mean replacement of one or more generating units and/or storage devices at an Existing Generating Facility with one or more new generating units or storage devices at the same electrical Point of Interconnection as those being

decommissioned and electrically disconnected.

**Generator Interconnection Agreement (GIA)** shall mean the form of interconnection agreement, set forth in Appendix 6 to these Generator Interconnection Procedures.

**Generator Interconnection Procedures (GIP)** shall mean the interconnection procedures set forth herein.

**Generator Upgrades** shall mean the additions, modifications, and upgrades to the electric system of an Existing Generating Facility or of a higher queued Generating Facility at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the Transmission Service necessary to affect Interconnection Customer's wholesale sale of electricity in interstate commerce.

**Good Utility Practice** shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

**Governmental Authority** shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer, Transmission Provider, Transmission Owner, or any Affiliate thereof.

**Group Study(ies)** shall mean the process whereby more than one Interconnection Request is studied together, instead of serially, for the purpose of conducting one or more of the required Interconnection Studies.

**Hazardous Substances** shall mean any chemicals, materials or substances defined as or included in the definition of “hazardous substances,” “hazardous wastes,” “hazardous materials,” “hazardous constituents,” “restricted hazardous materials,” “extremely hazardous substances,” “toxic substances,” “radioactive substances,” “contaminants,” “pollutants,” “toxic pollutants” or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

**HVDC Facilities** shall mean the high voltage direct current transmission facilities, including associated alternating current facilities, if any, that are subject to Section 27A of the Tariff and that are specifically identified in (i) any Agency Agreement pertaining to such facilities between Transmission Provider and Transmission Owner that owns or operates such facilities, or (ii) in any other arrangement that permits or will permit Transmission Provider to provide HVDC Service over such facilities as set forth in Section 27A of the Tariff.

**HVDC Service** shall mean Firm and Non-Firm Point-To-Point Transmission Service provided by Transmission Provider on HVDC Facilities pursuant to Section 27A of the Tariff.

**Initial Synchronization Date** shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

**Injection Rights** shall mean the Transmission Provider’s pre-certification of the Transmission System’s capability to receive capacity and energy from the MHVDC Transmission Line at the requested Point of Connection, and in the specified MW quantity, without degrading the reliability of the Transmission System, as described in Section 16 of the

GIP and Section 3.2.3 of the MHCP.

**In-Service Date (ISD)** shall mean the date upon which Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Owner's Interconnection Facilities to obtain back feed power.

**Interconnection Customer** shall mean any entity, including Transmission Provider, Transmission Owner or any of the Affiliates or subsidiaries of either, that proposes to interconnect its Generating Facility with the Transmission System.

**Interconnection Customer Decision Point I** shall mean the time period beginning when the Interconnection Customer is provided the Preliminary System Impact Study results including cost estimates for upgrades and concludes after fifteen (15) Business Days.

**Interconnection Customer Decision Point II** shall mean the time period beginning when the Interconnection Customer is provided the Revised System Impact Study results including cost estimates for upgrades and the Affected Systems analysis results including cost estimates for upgrades on the Affected System and concludes after fifteen (15) Business Days.

**Interconnection Customer's Interconnection Facilities (ICIF)** shall mean all facilities and equipment, as identified in Appendix A of the Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission System or Distribution System, as applicable. Interconnection Customer's Interconnection Facilities are sole use facilities.

**Interconnection Facilities** shall mean the Transmission Owner's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility

and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission System. Interconnection Facilities shall not include Distribution Upgrades, Generator Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Interconnection Facilities Study(ies)** shall mean a study conducted by Transmission Provider, or its agent, for Interconnection Customer(s) to determine a list of facilities (including Interconnection Customer's Interconnection Facilities, Transmission Owner's Interconnection Facilities, System Protection Facilities, and if such upgrades have been determined, Network Upgrades, Distribution Upgrades, Generator Upgrades, Common Use Upgrades, and upgrades on Affected Systems, as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility(ies) with the Transmission System.

**Interconnection Request** shall mean (1) an Interconnection Customer's request, in the form of Appendix 1 to the Generator Interconnection Procedures, to interconnect a new Generating Facility [or a request for the Expedited Resource Addition Study for a new generation capacity](#), or to increase the capacity of, or make a Material Modification to the operating characteristics of, an Existing Generating Facility that is interconnected with the Transmission System, or to interconnect an Existing Generating Facility that is external to the Transmission System, or to change Energy Resource Interconnection Service to Network Resource Interconnection Service for an Existing Generating Facility; or (2) an MHVDC Connection Customer's request, in the form of Appendix 1 to the Generator Interconnection Procedures, to obtain Injection Rights.

**Interconnection Service** shall mean the service provided by Transmission Provider associated with interconnecting the Generating Facility to the Transmission System, or external host transmission provider if applicable, and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection pursuant to the terms of the Generator Interconnection Agreement or Point of Delivery as set forth in Service Agreement for

Network Resource Interconnection Service for an External Generating Facility and, if applicable, the Tariff.

**Interconnection Study (or Study)** shall mean any of the following studies: the Replacement Impact Study, the Reliability Assessment Study, the Optional Interconnection Study, the Interconnection System Impact Study including evaluations for Surplus Interconnection Service, and the Interconnection Facilities Study, or the Restudy of any of the above, described in the Generator Interconnection Procedures.

**Interconnection System Impact Study** shall mean an engineering study that evaluates the impact of the proposed interconnection on the safety and reliability of Transmission System and, if applicable, an Affected System. The study shall identify and detail the system impacts that would result if the Generating Facility were interconnected without project modifications or system modifications, or to study potential impacts, including but not limited to those identified in the Scoping Meeting as described in the Generator Interconnection Procedures.

**Interconnection Study Agreement** shall mean the forms of agreement contained in Attachment B to Appendix 1 of the Generator Interconnection Procedures for conducting all studies required by the Generator Interconnection Procedures.

**IRS** shall mean the Internal Revenue Service.

**Joint Operating Agreement between the Midcontinent Independent System Operator, Inc. and Southwest Power Pool, Inc. (MISO-SPP JOA)** shall mean Rate Schedule 6 to the MISO Tariff.

**Joint Targeted Interconnection Queue (JTIQ)** shall refer to the study and processes described in Section 9.4.2 of Rate Schedule 6 (MISO-SPP JOA).

**Joint Targeted Interconnection Queue Study (“JTIQ Study”)** shall mean a



transmission planning study conducted jointly by SPP and MISO to facilitate the interconnection of new generator capacity in both Parties' regions.

**JTIQ Commitment Group Member** shall mean any JTIQ Commitment Group Member included in a Commitment Group consistent with Section 9.4 of Rate Schedule 6 (MISO-SPP JOA).

**JTIQ Commitment Group or Commitment Group** shall mean a group of JTIQ Commitment Group Members that have executed a JTIQ Generator Interconnection Agreement within the twelve (12) month period ending April 30<sup>th</sup> of each year. The Commitment Group shall also include JTIQ Commitment Group Members for which a JTIQ Generator Interconnection Agreement has been filed unexecuted by SPP or the Transmission Provider and the Commission has accepted the agreement within the twelve (12) month period ending April 30<sup>th</sup> of each year.

**JTIQ Generator Charge** shall mean the charge to JTIQ Commitment Group Members to recover the JTIQ Commitment Group Member's share of the JTIQ Monthly Revenue Requirement for each of the JTIQ Upgrades in the JTIQ Portfolio in the Transmission Provider's Region.

**JTIQ Participation Group** shall mean the group of Interconnection Requests that shall consist of all interconnection customers included in the JTIQ Screening Groups whose interconnection request meets the distribution factor and impact criteria specified in Section 9.4.2(d)(ii) of Rate Schedule 6 (MISO-SPP JOA).

**JTIQ Portfolio** shall mean a group of JTIQ Upgrades identified pursuant to Section 9.4 of Rate Schedule 6 (MISO-SPP JOA).

**JTIQ Screening Group** shall mean a group of MISO Interconnection Customers and SPP interconnection customers whose Interconnection Requests will be screened for inclusion in

a JTIQ Participation Group. The JTIQ Screening Group shall consist of all interconnection customers who have submitted interconnection requests into a MISO [ERAS](#), [SPP ERAS](#), DPP study cluster, or SPP DISIS study cluster that: (1) has a study commencement or kick off date that is after the date that the Parties' respective Boards of Directors have approved a JTIQ Portfolio; and (2) has not commenced DPP Phase I, [a MISO ERAS](#), [the SPP ERAS](#), or DISIS Phase One studies pursuant to each party's OATT as of the date that the Parties have declared the JTIQ Portfolio fully subscribed.

**JTIQ Service Agreements** shall mean the JTIQ Commitment Agreement attached to the MISO GIA as Appendix 17 and the SPP's *pro forma* agreement(s) that obligate interconnection customers to provide security for and pay the JTIQ Generator Charge for JTIQ Network Upgrades included in the applicable JTIQ Portfolio.

**JTIQ Upgrade** shall mean a Network Upgrade included in a JTIQ portfolio pursuant to Section 9.4 of Rate Schedule 6 (MISO-SPP JOA).

**Local Balancing Authority** shall mean an operational entity or a Joint Registration Organization which is (i) responsible for compliance with the subset of NERC Balancing Authority Reliability Standards defined in the Balancing Authority Agreement for their local area within the MISO Balancing Authority Area, (ii) a Party to Balancing Authority Agreement, excluding MISO, and (iii) provided in the Balancing Authority Agreement.

**Local Resource Zone (LRZ)** shall mean a geographic area within the Transmission Provider Region that is prescribed by the Transmission Provider, based upon the criteria in Section 68A.3, to address congestion that limits Planning Resource deliverability.

**Loss** shall mean any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its

obligations under the Generator Interconnection Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing, by the indemnified party.

**Material Modification** shall mean: (1) modification to an Interconnection Request in the queue that has a material adverse impact on the cost or timing of any other Interconnection Request with a later queue priority date; or a Qualified Change.

**Merchant HVDC Connection Customer (MHVDC Connection Customer)** shall mean any entity that proposes to interconnect an MHVDC Transmission Line with the Transmission System, as set forth in the MHCP.

**Merchant HVDC Connection Procedures (MHCP)** shall mean the connection procedures set forth in Attachment GGG to the Tariff.

**Merchant HVDC Transmission Connection Request (MHVDC Transmission Connection Request)** shall mean an MHVDC Connection Customer's request, in the form of Appendix 1 to the MHCP to interconnect a new MHVDC Transmission Line, increase the capacity of an existing MHVDC Transmission Line, or make a substantial modification to the operating characteristics of an existing MHVDC Transmission Line.

**Merchant HVDC Transmission Connection Agreement (Transmission Connection Agreement or TCA)** shall mean the form of the transmission connection agreement for merchant HVDC transmission facilities set forth in Appendix 2 to the MHCP.

**Merchant HVDC Transmission Line (MHVDC Transmission Line)** shall mean the merchant high voltage direct current transmission line external to the Transmission System that is proposed for connection to the Transmission System, as defined in the MHCP.

**Metering Equipment** shall mean all metering equipment installed or to be installed at the Generating Facility, Interconnection Customer's Interconnection Facilities, and/or

Transmission Owner's Interconnection Facilities pursuant to the Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

**Monitoring and Consent Agreement** shall mean an agreement that defines the terms and conditions applicable to a Generating Facility acquiring Surplus Interconnection Service. The Monitoring and Consent Agreement will list the roles and responsibilities of an Interconnection Customer seeking to interconnect with Surplus Interconnection Service and Transmission Owner to maintain the total output of the Generating Facility inside the parameters delineated in the GIA.

**Multi-Party Facilities Construction Agreement (MPFCA)** shall mean the form of facilities construction agreement, set forth in Appendix 9 to these Generator Interconnection Procedures. The MPFCA shall be used when multiple Interconnection Requests cause the need for the construction of Common Use Upgrades on the Transmission System or the transmission system of an Affected System and share cost responsibility for such Common Use Upgrades.

**NERC** shall mean the North American Electric Reliability Corporation or its successor organization.

**Network Customer** shall have that meaning as provided in the Tariff.

**Network Resource** shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

**Network Resource Interconnection Service (NR Interconnection Service)** shall mean an Interconnection Service that allows Interconnection Customer to integrate its Generating

Facility with the Transmission System in the same manner as for any Generating Facility being designated as a Network Resource. Network Resource Interconnection Service does not convey transmission service. Network Resource Interconnection Service shall include any network resource interconnection service established under an agreement with, or the tariff of, a Transmission Owner prior to integration into MISO, that is determined to be deliverable through the integration deliverability study process.

**Network Upgrades** shall mean the additions, modifications, and upgrades to the Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission System or Distribution System, as applicable, to accommodate the interconnection of the Generating Facility(ies) to the Transmission System. Network Upgrades shall not include any HVDC Facility Upgrades.

**Notice of Dispute** shall mean a written notice of a dispute or claim that arises out of or in connection with the Generator Interconnection Agreement or its performance.

**Optional Interconnection Study** shall mean a sensitivity analysis based on assumptions specified by Interconnection Customer in the Optional Interconnection Study Agreement.

**Optional Interconnection Study Agreement** shall mean the form of agreement contained in Appendix 5 of the Generator Interconnection Procedures for conducting the Optional Interconnection Study.

**Outage Transfer Distribution Factor (OTDF)** Outage Transfer Distribution Factor, as defined by NERC.

**Party or Parties** shall mean Transmission Provider, Transmission Owner, Interconnection Customer, or any combination of the above.

**Permissible Technological Advancement** shall mean advancements to turbines, inverters, plant supervisory controls, excitation systems, or other technological advancements submitted to the Transmission Provider prior to the issuance of a draft Generator Interconnection Agreement for such project provided that such advancements does not: (1) degrade the electrical characteristics of the generating equipment; (2) does not cause any material adverse impact on the Transmission System with regard to short circuit capability limits, steady-state thermal and voltage limits, or dynamic system stability and response; (3) does not increase the installed capacity of the Generating Facility; or (4) change the fuel source of the proposed Generating Facility.

**Point of Change of Ownership (PCO)** shall mean the point, as set forth in Appendix A to the Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Owner's Interconnection Facilities.

**Point of Connection** shall mean the point, as set forth in an MHVDC Transmission Connection Request, where the MHVDC Transmission Line connects to the Transmission System.

**Point of Interconnection (POI)** shall mean the point, as set forth in Appendix A of the GIA, where the Interconnection Facilities connect to the Transmission System.

**Potential MW Total** shall mean a projection of the number of MW that may commit to the JTIQ Portfolio from all [ERAS and](#) study clusters to date, including the current study cluster(s).

**Power Transfer Distribution Factor (PTDF)** Power Transfer Distribution Factor, as defined by NERC.

**Preliminary System Impact Study** shall mean the Interconnection System Impact Study performed during Definitive Planning Phase I

**Pre-Queue Phase** shall mean Interconnection Customer outreach and education effort undertaken prior to the submission of the Interconnection Request.

**Provisional Generator Interconnection Agreement** shall mean the interconnection agreement for Provisional Interconnection Service established between the Transmission Provider and/or the Transmission Owner and the Interconnection Customer as set forth in Section 7.9 of this Attachment X. This agreement shall take the form of the Generator Interconnection Agreement modified for provisional purposes. Unless otherwise provided in the GIP, all requirements applicable to the Generator Interconnection Agreement shall apply to the Provisional Generator Interconnection Agreement.

**Provisional Interconnection Service** shall mean Interconnection Service provided by the Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to the Transmission Provider's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Provisional Generator Interconnection Agreement and the Tariff.

**Provisional Interconnection Study** shall mean an engineering study, performed at Interconnection Customer's request, as a condition to entering into a Provisional Generator Interconnection Agreement, that evaluates the impact of the proposed interconnection on the safety and reliability of the Transmission System and, if applicable, any Affected System. The study shall identify and detail the impacts on the Transmission System and, if applicable, an Affected System, from stability, short circuit, and voltage issues that would result if the Generating Facility were interconnected without project modifications or system modifications.

**Qualified Change** shall mean a planned modification to an Existing Generating Facility that is undergoing evaluation for a Generating Facility Modification or Generating Facility Replacement, and has a material adverse impact on the Transmission System with respect to: i)

steady-state thermal or voltage limits, ii) dynamic system stability and response, or iii) short-circuit capability limit; compared to the impacts of the Existing Generating Facility prior to the modification or replacement.

**Queue Position** shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests. The Queue Position is established based upon the date and time of receipt of the valid Interconnection Request by Transmission Provider.

**Reasonable Efforts** shall mean, with respect to an action required to be attempted or taken by a Party under the Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

**Relevant Electric Retail Regulatory Authority (RERRA)** shall mean an entity that has jurisdiction over and establishes prices and/or policies for providers of retail electric service to end-customers, such as the city council for a municipal utility, the governing board of a cooperative utility, the state public utility commission or any such entity.

**Reliability Assessment Study** shall mean an engineering study that evaluates the impact of a proposed Generating Facility Replacement on the reliability of Transmission System during the time period between the date that the Existing Generating Facility ceases commercial operations and the Commercial Operation Date of the Replacement Generating Facility.

**Replacement Generating Facility** shall mean a Generating Facility that replaces an Existing Generating Facility, or a portion thereof, at the same electrical Point of Interconnection pursuant to Section 3.7 of this Attachment X.

**Replacement Impact Study** shall mean an engineering study that evaluates the impact of a proposed Generating Facility Replacement on the reliability of the Transmission System.



**Revised System Impact Study** shall mean the Interconnection System Impact Study performed during Definitive Planning Phase II

**Scoping Meeting** shall mean the meeting between representatives of Interconnection Customer or MHVDC Connection Customer, Transmission Owner, Affected System Operator(s) and Transmission Provider conducted for the purpose of discussing alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection or Points of Connection.

**Shared Network Upgrade** shall mean a Network Upgrade or Common Use Upgrade that is funded by an Interconnection Customer(s), including when the Transmission Owner elects to fund the capital cost of such a Network Upgrade or Common Use Upgrade under Section 11.3 of the GIA, and also benefits other Interconnection Customer(s) or MHVDC Connection Customer(s) that are later identified as beneficiaries.

**Site Control** shall mean a documented right for one or more parcels of land for the purpose of constructing a Generating Facility, Interconnection Customer's Interconnection Facilities, and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), the Transmission Owner's Interconnection Facilities and Network Upgrades at the POI that the Interconnection Customer will develop. Such documented right shall be one of the following: (1) ownership of a site; (2) a leasehold interest in a site; (3) an option to purchase or acquire a leasehold interest in a site; or (4) any other contractual or legal right to possess or occupy a site.

**Small Generating Facility** shall mean a Generating Facility that has an aggregate net Generating Facility Capacity of no more than five MW and meets the requirements of Section 14 and Appendix 3.

**Southwest Power Pool (SPP)** shall refer to the Southwest Power Pool, Inc. the Regional Transmission Organization that is the counterparty to Rate Schedule 6 (MISO-SPP JOA).

**Special Protection System (SPS)** shall mean an automatic protection system or remedial action scheme designed to detect abnormal or predetermined system conditions, and take corrective actions other than and/or in addition to the isolation of faulted components, to maintain system reliability. Such action may include changes in demand (MW and MVar), energy (MWh and Mvarh), or system configuration to maintain system stability, acceptable voltage, or power flows. An SPS does not include: (a) underfrequency or undervoltage load shedding; (b) fault conditions that must be isolated; (c) out-of-step relaying not designed as an integral part of an SPS; or (d) Transmission Control Devices.

**Stand-Alone Network Upgrades** shall mean Network Upgrades, that are not part of an Affected System or a JTIQ Upgrade, that an Interconnection Customer or MHVDC Connection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Transmission Provider, Transmission Owner and Interconnection Customer or MHVDC Connection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Generator Interconnection Agreement or Appendix B of the Transmission Connection Agreement. If the Transmission Provider or Transmission Owner and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Provider or Transmission Owner that disagrees with the Interconnection Customer must provide the Interconnection Customer a written technical explanation outlining why the Transmission Provider or Transmission Owner does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

**Supplemental Affected System Analysis** shall mean the affected systems analysis described in Section 7.3.2.3.1 of this GIP and Section 9.4.2.e.iii.a.i of the Rate Schedule 6 (MISO-SPP JOA) to determine if Supplemental Affected System Upgrades are required for one or more JTIQ Participation Group member(s).

**Supplemental Affected System Upgrade** shall mean a Network Upgrade in addition to those required to address the impact of interconnection requests in the current study cluster as described in Section 9.4.2.e.iii.a.i of Rate Schedule 6 (MISO-SPP-JOA).

**Surplus Interconnection Service** shall mean any Interconnection Service that is derived from the unneeded portion of Interconnection Service established in a GIA or in agreement with, or under the tariff of, a Transmission Owner prior to integration into MISO, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same.

**System Planning and Analysis Phase** shall mean the phase of the Generator Interconnection Procedure process, prior to January 4, 2017, which consisted of an Interconnection System Impact Study for those Interconnection Requests that were studied in this phase.

**System Protection Facilities** shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Transmission System or other delivery systems or other generating systems from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the Transmission System or on other delivery systems or other generating systems to which the Transmission System is directly connected.

**Target MW Value** shall mean the projected new generation interconnection MW enabled by the JTIQ Portfolio. The Target MW Value for each JTIQ Portfolio shall be identified in Section 9.4 and related subsections of Rate Schedule 6.

**Tariff** shall mean the Transmission Provider's Tariff through which open access transmission service and Interconnection Service are offered, as filed with the Commission, and as amended or supplemented from time to time, or any successor tariff.

**Threshold Charge** shall mean the charge calculated using an estimate of plant in service value for the JTIQ Portfolio, excluding amounts funded under the GRIP Program, as described in Section 9.4.2 of Rate Schedule 6 (MISO-SPP JOA).

**Transmission Control Devices** shall mean a generally accepted transmission device that is planned and designed to provide dynamic control of electric system quantities, and are usually employed as solutions to specific system performance issues. Examples of such devices include fast valving, high response exciters, high voltage DC links, active or real power flow control and reactive compensation devices using power electronics (*e.g.*, unified power flow controllers), static var compensators, thyristor controlled series capacitors, braking resistors, and in some cases mechanically switched capacitors and reactors. In general, such systems are not considered to be Special Protection Systems.

**Transmission Owner** shall mean that Transmission Owner as defined in the Tariff, which includes an entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at which Interconnection Customer proposes to interconnect or otherwise integrate the operation of the Generating Facility. Transmission Owner should be read to include any Independent Transmission Company that manages the transmission facilities of Transmission Owner and shall include, as applicable, the owner and/or operator of distribution facilities interconnected to the Transmission System, over which facilities transmission service or Wholesale Distribution Service under the Tariff is available at the time Interconnection Customer requests Interconnection Service and to which Interconnection Customer has requested interconnection of a Generating Facility for the purpose of either transmitting electric energy in interstate commerce or selling electric energy at wholesale in interstate commerce.

**Transmission Provider** shall mean the Midcontinent Independent System Operator, Inc. (“MISO”), the Regional Transmission Organization that controls or operates the transmission facilities of its transmission-owning members used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff.

**Transmission Owner's Interconnection Facilities (TOIF)** shall mean all facilities and equipment owned by Transmission Owner from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment.

Transmission Owner's Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Generator Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Transmission System** shall mean the facilities owned by Transmission Owner and controlled or operated by Transmission Provider or Transmission Owner that are used to provide transmission service (including HVDC Service) or Wholesale Distribution Service under the Tariff.

**Trial Operation** shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

**Variable Energy Resource** shall mean a device for the production of electricity that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator.

**Wholesale Distribution Service** shall have that meaning as provided in the Tariff. Wherever the term "transmission delivery service" is used, Wholesale Distribution Service shall also be implied.

## SECTION 2. SCOPE AND APPLICATION.

### 2.1 Application of Generator Interconnection Procedures.

- a. Sections 2 through 13 of the GIP apply to processing an Interconnection Request pertaining to a Generating Facility. The GIP specifically applies when one of the following is proposed by an Interconnection Customer: (i) a new Generating Facility at a new Point of Interconnection that does not meet the criteria set forth in Sections 2.1 (b) or (c), (ii) additional generation at an existing Point of Interconnection, (iii) an increase in the capacity of an Existing Generating Facility, (iv) a Generating Facility Modification that may constitute a Material Modification to the operating characteristics of an Existing Generating Facility, or (v) a Replacement Generating Facility. The evaluation in subpart (iv) will be performed expeditiously depending on the specific information regarding any proposed Generating Facility Modification and the existence of an Emergency Condition.
- b. Section 14 of the GIP applies to a request to interconnect a certified Small Generating Facility meeting the certification criteria set forth in Appendix 3.
- c. A request to interconnect a certified inverter-based Small Generating Facility no larger than 10 kW shall be evaluated under the Appendix 4 – 10 kW Inverter Process.
- d. A request to interconnect to HVDC Facilities subject to Section 27A of the Tariff will be incorporated into the queue as described in Sections 2 through 13 of the GIP. Modifications to the process necessitated by the physics of a connection to HVDC Facilities are found in Section 15 of the GIP, and will apply to those requests to interconnect to HVDC Facilities.
- e. Network Resource Interconnection Service is available to Existing Generating

Facilities connected to facilities external to the Transmission System, including any Existing Generating Facilities connected to any MHVDC Transmission Line. Such a request for Network Resource Interconnection Service shall be memorialized with a Service Agreement as found in Appendix 13 of the GIP.

- f. Sections 1 through 7, Section 10, Section 13 and Section 16 of the GIP apply to processing an Interconnection Request pertaining to Injection Rights for an MHVDC Transmission Line. Any such request for Injection Rights will be incorporated into the queue as described in Sections 2 through 7 of the GIP. Procedures for obtaining Injection Rights and the conversion of those rights to external Network Resource Interconnection Service are set forth in Section 16 of the GIP. All references to MHVDC Connection Customer(s) in these GIP shall be understood to refer to MHVDC Connection Customer(s) seeking Injection Rights.
- g. A request for Replacement Generating Facility shall be evaluated pursuant to Section 3.7 of the GIP.
- h. A request for Generating Facility Modification for an Existing Generating Facility must be submitted to and coordinated with the Transmission Provider pursuant to the provisions set forth in the Generator Interconnection Business Practices Manual to allow the Transmission Provider to determine whether the proposed modification would result in a substantive modification to the operating characteristics of such Existing Generating Facility.
- i. [An Interconnection Request for a new Generating Facility to be studied through the Expedited Resource Addition Study process shall be evaluated pursuant to Section 3.9.2.](#)

## 2.2 Comparability.

Transmission Provider shall receive, process and analyze all Interconnection Requests in

a timely manner as set forth in the GIP. Transmission Provider will use the same Reasonable Efforts in processing and analyzing Interconnection Requests from all Interconnection Customers regardless of Generating Facility ownership and from all MHVDC Connection Customers regardless of MHVDC Transmission Line ownership.

### **2.3 Base Case Data.**

Transmission Provider shall maintain base power flow, short circuit and stability databases, including all underlying assumptions, and contingency list on a password-protected website, subject to confidentiality provisions in GIP Section 13.1. In addition, Transmission Provider shall maintain network models and underlying assumptions on such password-protected website. Such network models and underlying assumptions should reasonably represent those used during the most recent interconnection study and be representative of current system conditions. A link to the information is provided on Transmission Provider's OASIS site. Interconnection Customers and password-protected website users must sign a confidentiality agreement before the release of commercially sensitive information or Critical Energy Infrastructure Information in the Base Case data. Such databases and lists shall include all (i) generation projects and (ii) transmission projects, including merchant transmission projects that are proposed for the Transmission System for which a transmission expansion plan has been submitted and approved by the MISO Board.

### **2.4 No Applicability to Transmission Service.**

Nothing in the GIP shall constitute a request for transmission service or confer upon an Interconnection Customer or MHVDC Connection Customer any right to receive transmission service or Wholesale Distribution Service under the Tariff.

## **SECTION 3. INTERCONNECTION REQUESTS.**

### **3.1 General.**

An Interconnection Customer or MHVDC Connection Customer shall submit to



Transmission Provider an Interconnection Request in the form of Appendix 1 to the GIP and the deposit along with the other items listed in Section 3.3.1 of these GIP in the manner specified by the Generator Interconnection Business Practices Manual (BPM-015). Transmission Provider shall apply the deposit towards the cost of any Interconnection Study. Interconnection Customer or MHVDC Connection Customer shall submit a separate Interconnection Request for each site and may submit multiple Interconnection Requests for a single site. Interconnection Customer or MHVDC Connection Customer must submit a deposit with each Interconnection Request even when more than one request is submitted for a single site. An Interconnection Request to evaluate one site at two different voltage levels shall be treated as two Points of Interconnection; provided, however, that an Interconnection Request for Injection Rights shall only evaluate one voltage level at each Point of Connection.

Transmission Provider shall have a process in place to consider requests for Interconnection Service below the Generating Facility Capacity. These requests for Interconnection Service shall be studied at the level of Interconnection Service requested for purposes of Interconnection Facilities and Network Upgrades, and associated costs, but may be subject to other studies at the full Generating Facility Capacity to ensure safety and reliability of the system, with the study costs borne by the Interconnection Customer. If after the additional studies are complete, Transmission Provider determines that additional Network Upgrades are necessary, then Transmission Provider must: (1) specify which additional Network Upgrade costs are based on which studies; and (2) provide a detailed explanation of why the additional Network Upgrades are necessary. Any Interconnection Facility and/or Network Upgrade costs required for safety and reliability also will be borne by the Interconnection Customer. Interconnection Customers may be subject to additional control technologies as well as testing and validation of those technologies consistent with Article 6 of the GIA. The necessary control technologies and protection systems shall be established in Appendix C of the executed, or requested to be filed unexecuted, GIA.

### **3.2 Identification of Types of Services.**

At the time the Interconnection Request is submitted, Interconnection Customer must request NR Interconnection Service, ER Interconnection Service or Surplus Interconnection Service, as described; provided, however, any Interconnection Customer requesting NR Interconnection Service may also request that it be concurrently studied as an ER Interconnection Service, up to the expiration of Interconnection Customer Decision Point II. Interconnection Customer may then elect to proceed with NR Interconnection Service or to proceed under a lower level of NR Interconnection Service to the extent that only certain upgrades will be completed. A description of the modeling details used when studying a project as ER Interconnection Service or NR Interconnection Service can be found in Section 6 of the Generator Interconnection Business Practices Manual (BPM-015). MHVDC Connection Customer may only request Injection Rights pursuant to Section 16 of the GIP and shall not be eligible to receive any Interconnection Services specified in the GIP.

#### **3.2.1 Energy Resource Interconnection Service (ER Interconnection Service).**

**3.2.1.1 The Product.** ER Interconnection Service allows Interconnection Customer to connect the Generating Facility to the Transmission System or Distribution System, as applicable, and be eligible to deliver the Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis and may be granted on a conditional basis. ER Interconnection Service does not in and of itself convey any right to deliver electricity to any specific customer or Point of Delivery.

**3.2.1.2 The Study.** The study consists of short circuit/fault duty, steady state (thermal and voltage) and stability analyses. The short circuit/fault duty analysis would identify the Interconnection Facilities required and the Network Upgrades necessary to address short circuit issues associated

with the Interconnection Facilities. The stability and steady state studies would identify necessary upgrades to allow full output of the proposed Generating Facility and would also identify the maximum allowed output, at the time the study is performed, of the interconnecting Generating Facility without requiring additional Network Upgrades.

### **3.2.2 Network Resource Interconnection Service (NR Interconnection Service).**

**3.2.2.1 The Product.** Transmission Provider must conduct the necessary studies and Transmission Owner shall cause the construction of the Network Upgrades, System Protection Facilities, Distribution Upgrades or Generator Upgrades, subject to the approval of Governmental Authorities, needed to integrate the Generating Facility in the same manner as for any Generating Facility being designated as a Network Resource. NR Interconnection Service allows the Generating Facility to be designated as a Network Resource, up to the Generating Facility's full output on the same basis as existing Network Resources that are interconnected to the Transmission or Distribution System as applicable, and to be studied as a Network Resource on the assumption that such a designation will occur. NR Interconnection Service may be granted on a conditional basis pursuant to the terms of Article 4.1.2.3 of the GIA. A Generating Facility requesting NR Interconnection Service shall be deemed to request ER Interconnection Service of an equivalent amount to the extent that the Generating Facility does not already have ER Interconnection Service in order to allow Interconnection Customer to connect the Generating Facility to the Transmission System or Distribution System, as applicable, and be eligible to deliver the Generating Facility's output. The total NR Interconnection Service shall not exceed the total ER Interconnection for a Generating Facility. Interconnection Customer with an in-service Generating Facility or with an executed GIA, having ER Interconnection

Service or equivalent interconnection service can request NR Interconnection Service by making an Interconnection Request for obtaining only NR Interconnection Service.

**3.2.2.2 The Study.** The Interconnection Study for NR Interconnection Service shall assure that the Generating Facility meets the requirements for NR Interconnection Service and will qualify the Generating Facility as a Network Resource under Module B and the RAR of the Transmission Provider's Tariff. As a general matter, the Generating Facility's interconnection is studied with the Transmission System at both off-peak and peak loads, under a variety of severely stressed conditions, to determine whether, with the Generating Facility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load on the Transmission System or Distribution System, as applicable, consistent with Applicable Reliability Standards. This approach assumes that some portion of existing Network Resources is displaced by the output of the Generating Facility. NR Interconnection Service does not convey any right to deliver electricity to any specific customer or Point of Delivery.

### **3.2.3 Surplus Interconnection Service.**

**3.2.3.1 The Product.** Surplus Interconnection Service is restricted Interconnection Service that allows an Interconnection Customer to increase the gross generating capability at the same Point of Interconnection of an Existing Generating Facility without increasing the total amount of Interconnection Service at the Point of Interconnection. The total combined generating output at the Point of Interconnection for Both the original and surplus Interconnection Customer is limited to and shall not exceed the total amount of Interconnection Service of an Existing

Generating Facility. Surplus Interconnection Service does not convey any right to deliver electricity to any specific customer or Point of Delivery. If the Existing Generating Facility has only ERIS, any Surplus Interconnection Service associated with that Existing Generating Facility at the same Point of Interconnection shall be ERIS. If the Existing Generating Facility has NRIS, any Surplus Interconnection Service associated with that Existing Generating Facility at the same Point of Interconnection could be either ERIS or NRIS.

**3.2.3.2 The Study.** The Interconnection Study for Surplus Interconnection Service consists of reactive power, short circuit/fault duty, and stability analyses. Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied. If the Transmission Provider is unable to verify that the Existing Generating Facility was previously studied for the granted level of Interconnection Service as provided in Section 3.3.1.1(3) of this GIP, the Transmission Provider may perform steady state analyses to demonstrate reliable operation of the Surplus Interconnection Service in accordance with the GIP and Generator Interconnection Business Practice Manual. The Transmission Provider will perform the applicable studies for the Surplus Interconnection Request, pursuant to the provisions set forth in the Generator Interconnection Business Practices Manual, to determine whether the Surplus Interconnection Service proposed in the Surplus Interconnection Request would result in material adverse impact on the Transmission System and/or Affected Systems, as compared to the impacts that are created by the Existing Generating Facility, respecting its dispatch levels from the original steady state interconnection study, without the inclusion of the proposed Surplus Interconnection Service. If no original study is available, the Transmission Provider shall apply the current fuel dispatch assumptions used for new Generating Facilities to the

Existing Generating Facility in the steady state study. If Transmission Provider determines that the proposed Surplus Interconnection Service would result in a material adverse impact on the Transmission System and/or Affected Systems, then the proposed Surplus Interconnection Request is deemed to be a Qualified Change and the Interconnection Customer shall proceed through Definitive Planning Phase cycle similar to a request for interconnection of a new Generating Facility or withdraw the Surplus Interconnection Request. The Interconnection Study for the Surplus Interconnection Request will identify the Interconnection Facilities required and the Network Upgrades necessary to address reliability issues associated with the Interconnection Facilities.

### **3.2.4 Injection Rights**

**3.2.4.1 The Product.** Injection Rights serve as a pre-certification of the Transmission System's capability to receive capacity and energy from the MHVDC Transmission Line at the requested Point of Connection, and in the specified MW quantity, without degrading the reliability of the Transmission System. Injection Rights do not grant Interconnection Service or Transmission Service to the MHVDC Connection Customer. Injection Rights must be converted to external Network Resource Interconnection Service as set forth in Section 16.2 of the GIP before those rights may be used to offer energy or capacity into the MISO markets.

**3.2.4.2 The Study.** Requests for Injection Rights shall include both ERIS-level and NRIS-level evaluations. For ERIS-level evaluation, the study will include short circuit/fault duty, steady state (thermal and voltage) and stability analyses. The stability and steady state studies would identify necessary upgrades to allow full output of the proposed MHVDC Transmission Line and would also identify the maximum allowed output, at the time the study is performed, of the

interconnecting MHVDC Transmission Line without requiring any additional upgrades.

For NRIS-level evaluation, the study will assure that the output of the MHVDC Transmission Line meets the requirements for NR Interconnection Service and will qualify any Existing Generating Facility connected to the MHVDC Transmission Line as a Network Resource under Module B and the RAR of the Transmission Provider Tariff. As a general matter, such Generating Facility's interconnection with the Transmission System is studied at both off-peak and peak loads, under a variety of severely stressed conditions, to determine whether, with such Generating Facility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load on the Transmission System or Distribution System, as applicable, consistent with Applicable Reliability Standards. This approach assumes that some portion of an existing Network Resource is displaced by the output of such Generating Facility.

### **3.3 Valid Interconnection Request.**

#### **3.3.1 Initiating an Interconnection Request.**

An Interconnection Customer or an MHVDC Connection Customer wishing to join the next Definitive Planning Phase shall submit their Interconnection Request to the Transmission Provider in the manner required by the Generator Interconnection Business Practices Manual (BPM-015) no later than the application deadline, which will be at least ninety (90) Calendar Days prior to the scheduled kick-off of the Definitive Planning Phase I of that cycle, published on the MISO public website. Any Interconnection Request received after the application deadline published on the MISO public website shall, subject to section 4.1.1, be applied towards a subsequent Definitive Planning Phase cycle. A Provisional Generator Interconnection Agreement may be requested as set forth in Section 7.9 of the GIP.

An Interconnection Customer requesting to join the next Expedited Resource Addition Study (ERAS) shall submit their Interconnection Request to the Transmission Provider no later than the ERAS application deadline as published on the MISO public website, at least fifteen (15) Business Days prior to the scheduled kick-off of the ERAS cycle published on the MISO public website. The valid ERAS request shall be included in an ERAS Quarterly Study Period that commences after it was submitted.

Study deposits for the Definitive Planning Phase (DPP) and the Expedited Resource Addition s~~Study deposits~~ are required based on the Megawatt amount of the new Interconnection Service requested per the following schedule:

| <b>Amount of new Interconnection Service and/or Injection Rights requested (MW)</b> | <b>Non-Refundable Deposit 1 (D1)</b>                                                                                  | <b>Study Deposit 2 (D2)</b> |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------|
| < 6 MW                                                                              | Calculated according to the procedure in 3.3.1 and posted by Transmission Provider prior to the application deadline. | \$50,000                    |
| $20 \geq \text{MW} \geq 6$                                                          |                                                                                                                       | \$120,000                   |
| $50 \geq \text{MW} > 20$                                                            |                                                                                                                       | \$180,000                   |
| $100 \geq \text{MW} > 50$                                                           |                                                                                                                       | \$270,000                   |
| $200 \geq \text{MW} > 100$                                                          |                                                                                                                       | \$320,000                   |
| $500 \geq \text{MW} > 200$                                                          |                                                                                                                       | \$420,000                   |
| $1000 > \text{MW} > 500$                                                            |                                                                                                                       | \$530,000                   |
| $\text{MW} \geq 1000$                                                               |                                                                                                                       | \$640,000                   |

The Transmission Provider shall calculate the amount of the Non-Refundable Deposit 1 (D1) by determining the inflation adjustment in accordance with the inflation calculator located at the U.S. Bureau of Labor Statistics website. The inflation adjustment shall be calculated from the effective date of the original D1 amount of \$5,000, August 2008, to the most up-to-date data available at the time the notification takes place, where such amount will be rounded to the nearest \$100 and posted on the Transmission Provider's website. The Transmission Provider shall post a Non-Refundable Deposit 1 (D1) once



every three years. The Non-Refundable Deposit 1 (D1) amount calculated pursuant to this paragraph shall be applicable to all study groups with an application deadline that is sixty (60) or more Calendar Days after the date that the Transmission Provider posts such amount and will remain effective until Transmission Provider posts a revised calculation pursuant to this paragraph.

An Interconnection Request for the Expedited Resource Addition Study shall be accompanied by a Non-Refundable Deposit 1 (D1) of \$100,000.

An Interconnection Request for a Replacement Generating Facility and/or Surplus Interconnection Service shall be accompanied by a study deposit in the amount of \$60,000.

Thirty (30) Calendar Days after the execution of a non-Provisional Generator Interconnection Agreement or a Transmission Connection Agreement in which the Injection Rights option has been selected, Interconnection Customer or MHVDC Connection Customer may replace any non-encumbered balance of the study deposits with an irrevocable letter of credit reasonably acceptable to Transmission Provider.

Interconnection Customer or MHVDC Connection Customer shall be required to provide to Transmission Provider the following data as further described in the Generator Interconnection Business Practices Manual (BPM-015) along with its Interconnection Request:

- (i) a detailed stability model for the proposed Generating Facility or MHVDC Transmission Line;
- (ii) a detailed power flow model for the proposed Generating Facility or MHVDC Transmission Line;
- (iii) Technical data as outlined in Attachment A of Appendix 1 of this GIP;
- (iv) an Interconnection Study Agreement executed by Interconnection

Customer or MHVDC Connection Customer in the form of Appendix 1, Attachment B;

- (v) a definitive Point of Interconnection or Point of Connection;
- (vi) for Interconnection Requests proposing to share Interconnection Customer Interconnection Facilities with another pending Interconnection Request or existing project, a consent agreement in accordance with Section 3.3.1.4 of these Generator Interconnection Procedures;
- (vii) a one line diagram showing the Generating Facility or MHVDC Transmission Line and associated electrical equipment with appropriate rating and impedance information; and
- (viii) Megawatt amount of new Interconnection Service or Injection Rights requested.

In addition, Interconnection Customer or MHVDC Connection Customer proposing to enter the Definitive Planning Phase shall provide the Definitive Planning Phase entry milestone in the form of either cash or irrevocable letter of credit reasonably acceptable to Transmission Provider.

The Definitive Planning Phase entry milestone (M2) will be calculated as \$8,000 per Megawatt amount of new Interconnection Service or Injection Rights requested.

[The Expedited Resource Addition Study entry milestone \(M2\) will be calculated as \\$24,000 per Megawatt for the amount of new Interconnection Service requested.](#)

Except as otherwise provided for Site Control in Section 7.2 of this GIP, all applicable deposits, milestone payments, and data required to enter the Definitive Planning Phase, including the exemptions noted in Section 4.1.2, must be received at the time the application is submitted.

[All applicable deposits, milestone payments and data required to enter the Expedited](#)

Resource Addition Study must be received at the time the application is submitted.

Interconnection Customer shall provide proof of Site Control or a cash deposit in lieu of Site Control in accordance with the requirements and timing established in Section 7.2 of this GIP. In the event that an Interconnection Customer or MHVDC Connection Customer has a state regulatory requirement to process two Points of Interconnection or Points of Connection through the entire process, that Interconnection Customer or MHVDC Connection Customer is not required to comply with the Site Control requirements in Section 7.2 for the second Interconnection Request, provided it is properly identified as the required alternative.

The Non-Refundable Deposit 1 (D1) and Study Deposit 2 (D2) shall be applied toward the costs related to processing the Interconnection Request, including costs of Interconnection Studies and GIA negotiation.

The expected In-Service Date of the Generating Facility or MHVDC Transmission Line shall be no later than the process window for the Transmission Provider's regional expansion planning period not to exceed seven years from the date the Interconnection Request is received by Transmission Provider, unless Interconnection Customer or MHVDC Connection Customer demonstrates that engineering, permitting and construction of the Generating Facility or MHVDC Transmission Line will take longer than the regional expansion planning period, nor shall it be any sooner than the process time described in the Generator Interconnection Procedures and confirmed in the Pre-Queue Phase. The In-Service Date may succeed the date the Interconnection Request is received by Transmission Provider by a period up to ten years, or longer where Interconnection Customer or MHVDC Connection Customer and Transmission Provider agree, such agreement not to be unreasonably withheld.

The expected Commercial Operation Date of a Replacement Generating Facility shall be no more than three (3) years from the date of cessation of operation of the Existing

Generating Facility. For Existing Generating Facilities that have not yet reached Commercial Operation, the specified Commercial Operation Date in the GIA of a Replacement Generating Facility shall be no later than the specified Commercial Operation Date in the GIA of the Existing Generating Facility. For Existing Generating Facility that is in suspension pursuant to Section 38.2.7 of the Tariff or in Forced Outage, the start date of suspension or outage shall be considered the date of cessation of operation of the Existing Generating Facility for purposes of calculating the three (3) year limit. If the requested period of time between the cessation of operation of the Existing Generating Facility and expected Commercial Operation Date of the Replacement Generating Facility is more than three (3) years, the request shall be treated as an Interconnection Request for a new Generating Facility. An Existing Generating Facility that was in suspension pursuant to Section 38.2.7 of the Tariff is subject to the time limitations in Section 38.2.7(n) of the Tariff.

An Interconnection Request for a Generating Facility requesting processing through the Expedited Resource Addition Study shall identify the claimed resource adequacy and/or reliability need(s) for which it is being submitted. This should include the location (i.e. the county and state, the electrical bus location(s), and the Local Resource Zone) of any load to be served via the off take agreement as well as the peak demand for electricity expected over any one hour period in MWs—the amount of Interconnection Service requested must not exceed 150 percent of the identified MW need. The Generating Facility and the associated resource adequacy and/or reliability need(s) must be within the same Local Resource Zone, unless the resource adequacy and/or reliability need is included in a resource filing made to the RERRA that is providing the verification required in Section 3.9.1.

The expected Commercial Operation Date included in the Interconnection Request for a Generating Facility requesting processing through the Expedited Resource Addition Study shall be no later than three calendar years from the submission date of the Interconnection Request.

### **3.3.1.1 Additional Requirements for a Surplus Interconnection Request application**

A request for Surplus Interconnection Service made by an Interconnection Customer must meet the requirements listed in section 3.3.1 above, plus the following requirements:

1. The Interconnection Customer of the Existing Generating Facility, or one of its affiliates, shall have priority to utilize Surplus Interconnection Service. If the Interconnection Customer of the Existing Generating Facility or one of its affiliates does not exercise its priority, then the Interconnection Customer may make Surplus Interconnection Service available to other potential Interconnection Customers.
2. The Surplus Interconnection Request shall be accompanied by written confirmation from an officer of the Interconnection Customer of the Generating Facility from which Surplus Interconnection Service will be obtained, indicating: (i) the amount of Surplus Interconnection Service made available by the Interconnection Customer of the Generating Facility from which Surplus Interconnection Service will be obtained; (ii) the type of Interconnection Service (*i.e.*, ERIS or NRIS) made available by the Interconnection Customer of the Generating Facility from which Surplus Interconnection Service will be obtained in accordance with the provisions of Section 3.2.3.1 of this GIP; (iii) the circumstances under which the proposed Surplus Interconnection Service would be available, including an indication of whether the proposed Interconnection Service would be available on a continuous basis (*i.e.*, a certain number of MW of Surplus Interconnection Service would always be available for use by a co-located generating facility) or on a scheduled, periodic basis (*i.e.*, a specified

number of MW of Surplus Interconnection Service that would be available intermittently.

3. Except as provided in Section 3.3.1.1(3)(a) of this Attachment X, the Interconnection Customer must include the MISO Interconnection System Impact Study performed for the Existing Generating Facility when the Generating Facility was originally proposed for interconnection to the MISO Transmission System or, for Generating Facilities studied under a predecessor transmission provider's interconnection process, the original system impact study performed at the time such Generating Facility was originally studied for interconnection to the transmission system. Transmission Provider will use that study to appropriately scope the study for evaluation of the Surplus Interconnection Request. If the Interconnection Customer cannot provide such system impact study with its application, it shall indicate that such study is not available.
  - a. A Request for Surplus Interconnection Service may be submitted by an Interconnection Customer prior to the date that the Generating Facility from which such Interconnection Customer will take Surplus Interconnection Service has obtained an effective Generator Interconnection Agreement provided the following requirements are met:
    1. The Generating Facility from which the Surplus Interconnection Customer will take Surplus Interconnection Service has a valid Interconnection Request the has completed Interconnection Customer Decision Point II of the GIP prior to the date that the Surplus Interconnection Request is submitted;
    2. The Surplus Interconnection Request satisfies each of the

requirements of Section 3.3.1.1 of this GIP except that instead of providing the MISO Interconnection System Impact Study for an Existing Generating Facility specified by Section 3.3.1.1(3), the Surplus Interconnection Customer shall provide the most recently completed Interconnection System Impact Study in the form of the Revised System Impact Study for Definitive Planning Phase II or the Final System Impact Study for Definitive Planning Phase III for the Generating Facility from which Surplus Interconnection Service is to be obtained with the Surplus Interconnection Request;

3. The Surplus Interconnection Customer identifies the study cycle and project number of the Generating Facility from which it will take Surplus Interconnection Service in the Surplus Interconnection Request; and
4. If sharing Interconnection Customer Interconnection Facilities with the Existing Generating Facility, evidence that the Interconnection Customer has entered into a consent agreement that meets the requirements of Section 3.3.1.4.

The Transmission Provider shall commence processing and studying a Surplus Interconnection Request that conforms to the requirements of this Section 3.3.1.1(3)(a) of the GIP in accordance with the provision of Section 3.3.1.2 of this GIP provided that no GIA may be tendered for such Surplus Interconnection Request prior to the date that the Generating Facility from which such Interconnection Customer will take Surplus Interconnection Service has become subject to an effective Generator Interconnection Agreement.

### **3.3.1.2 Evaluation Process for Surplus Interconnection Request and the**

### **Requirements for the Request to Remain Valid**

The following conditions will apply for evaluation of Surplus Interconnection Request:

1. Within thirty (30) Calendar Days of the Transmission Provider's receipt of the completed Surplus Interconnection Request, Transmission Provider will commence a study of the proposed Surplus Interconnection Service pursuant to Section 3.2.3.2 of this GIP to determine whether such service would result in any material adverse impact to the Transmission System and/or Affected Systems and amounts to a Material Modification. Transmission Provider shall use Reasonable Efforts to complete the study of the Surplus Interconnection Request within ninety (90) Calendar Days. If Transmission Provider determines that the Surplus Interconnection Request would result in a material adverse impact to the Transmission System and/or Affected Systems, then the Surplus Interconnection Request shall proceed through the Definitive Planning Phase as a new Interconnection Request.
2. Within thirty (30) Calendar Days after having received results of the Transmission Provider's evaluation, Interconnection Customer requesting Surplus Interconnection Service shall inform Transmission Provider of its election to proceed with its Surplus Interconnection Request. After receiving the Interconnection Customer's election notice, Transmission Provider will initiate an Interconnection Facilities Study or tender a draft GIA, as appropriate. If the Interconnection Customer fails to provide a notice of its election to proceed within thirty (30) Calendar Days after having received results of the Transmission Provider's evaluation, the Transmission Provider will deem the Interconnection Request withdrawn pursuant to Section 3.6 of this GIP.



The Interconnection Facilities Study will be performed, if needed, and will be completed within ninety (90) Calendar Days. If an Interconnection Facilities Study is necessary, the Transmission Provider shall tender a draft *pro forma* GIA within the later of thirty (30) Calendar Days after final Interconnection Facilities Study reports are issued or the date that the GIA for the Generating Facility from which the Surplus Interconnection Customer will take Surplus Interconnection Service becomes effective. If an Interconnection Facilities Study is not necessary, the Transmission Provider shall tender a draft *pro forma* GIA or an amended GIA that conforms to the currently effective *pro forma* GIA, as applicable by the later of thirty (30) Calendar Days after the Interconnection Customer communicates its election to proceed with Surplus Interconnection Service request, or the date that the GIA for the Generating Facility from which the Surplus Interconnection Customers will take Surplus Interconnection Service becomes effective.

Interconnection Customer shall submit an executed Energy Displacement Agreement and Monitoring and Consent Assignment to the Transmission Provider prior to the conclusion of negotiations for the associated GIA, pursuant to Section 11 of this GIP. The executed Monitoring and Consent Agreement shall be in the form of Appendix 11 of the GIP to be effective upon execution of a GIA and must remain in effect during the term of the GIA.

The executed Energy Displacement Agreement shall be in the form of Appendix 12 of the GIP to be effective upon execution of a GIA and must remain in effect during the term of the GIA. If the Interconnection Customer fails to provide an executed Energy Displacement Agreement and a Monitoring and Consent Agreement to the Transmission Provider

prior to the conclusion of negotiations for the associated GIA, the Transmission Provider will deem the Interconnection Request withdrawn pursuant to Section 3.6 of this GIP.

If at any time prior to execution of the GIA the Energy Displacement Agreement or Monitoring and Consent Agreement required above is no longer in effect, the Interconnection Request for Surplus Interconnection Service shall be deemed to have been withdrawn.

**3.3.1.3 Requirements for continuation of Surplus Interconnection Service after retirement or cessation of commercial operation of an Existing Generating Facility**

1. In the event that the Interconnection Customer seeks to continue Surplus Interconnection Service following the retirement and permanent cessation of commercial operation of the Existing Generating Facility associated with that Surplus Interconnection Service, Transmission Provider shall permit the Surplus Interconnection Service to continue for a limited period not to exceed one (1) year if the Existing Generating Facility retired unexpectedly and if the following conditions are met:
  - (i) Transmission Provider studied the Surplus Interconnection Service Generating Facility for sole operation at that Point of Interconnection as a part of Interconnection Study for the Surplus Interconnection Service Generating Facility, and such studies confirm that the Surplus Interconnection Service Generating Facility can be solely and reliably operated after the retirement of the Existing Generating Facility; and
  - (ii) The Existing Generating Facility Interconnection Customer must

provide written consent to the continued operation of the Surplus Interconnection Service Generating Facility at either: (a) the limited level of Surplus Interconnection Service that is reflected in the Surplus Interconnection Service Generating Facility's Generator Interconnection Agreement; or (b) at any level below such limit.

#### **3.3.1.4 Additional Requirements for Interconnection Requests Proposing to Share Interconnection Customer Interconnection Facilities**

Interconnection Customer may submit an Interconnection Request that proposes to share Interconnection Customer Interconnection Facilities with one or more existing projects or pending Interconnection Requests. Interconnection Requests proposing such an arrangement shall so indicate in their Interconnection Request and attach a consent agreement executed by all Interconnection Customers with projects that propose to connect, or are connected, to the shared Interconnection Customer Interconnection Facilities. After an Interconnection Request has been submitted, an Interconnection Customer may only propose to share Interconnection Customer Interconnection Facilities as part of a Point of Interconnection modification. Such consent agreement shall, in accordance with the Business Practices Manuals, describe the proposed configuration of the projects, the proposed ownership of the Interconnection Customer Interconnection Facilities, the division of rights and responsibilities among the parties with respect to operations, maintenance, and repair of the Interconnection Customer Interconnection Facilities, and such other information regarding the operation of the Generating Facilities under this arrangement as may be specified in the Generator Interconnection Business Practice Manual. The consent agreement shall indicate the parties' consent to sharing the Interconnection Customer Interconnection Facilities in the manner described in the Interconnection Request(s).

### **3.3.1.5 Evaluation Process for Interconnection Requests Proposing to Share Interconnection Customer Interconnection Facilities**

Interconnection Requests proposing shared Interconnection Customer Interconnection Facilities shall require the consent of the Transmission Provider to proceed, which consent shall not be unreasonably withheld, conditioned, or delayed. The Transmission Provider shall review Interconnection Requests proposing to share Interconnection Customer Interconnection Facilities amongst multiple projects to confirm compliance with the requirements of Section 3.3.1.4 of these Generator Interconnection Procedures, that all Interconnection Customer responsibilities have been appropriately accounted for, and that all parties have consented to the described arrangement. The Transmission Provider shall complete this review and notify the parties whether the Transmission Provider consents to the proposed arrangement no later than five (5) days prior to the start of the Scoping Meeting in which their requests are discussed, or within ten (10) Business Days after receipt if the consent agreement is submitted as part of a Point of Interconnection modification. In the event that the Transmission Provider does not consent, the Transmission Provider shall provide a written statement of the reasons for such decision to each of the parties. Interconnection Requests that do not receive the Transmission Provider's consent for the sharing of Interconnection Customer Interconnection Facilities may be revised and resubmitted for inclusion in the applicable cycle prior to the start of DPP Phase I. In the event that the consent agreement is submitted as part of a Point of Interconnection modification, the consent for the sharing of Interconnection Customer Interconnection Facilities may be revised and resubmitted within five (5) Business Days of receiving the Transmission Provider's written statement of reasons.

Any Interconnection Customer that has an Interconnection Request pending in the

DPP as of August 14, 2019 and that intends to share Interconnection Customer Interconnection Facilities for that Interconnection Request with one or more existing projects or other Interconnection Requests shall satisfy each of the terms of Sections 3.3.1.4 and 3.3.1.5 of these Generator Interconnection Procedures, prior to the start of GIA negotiations for any Interconnection Request that remains pending in the DPP and that will participate in the sharing arrangement.

### **3.3.2 Acknowledgment of Interconnection Request.**

Transmission Provider shall acknowledge receipt of the Interconnection Request within five (5) Business Days of receipt of the Interconnection Request. Transmission Provider shall tender to Interconnection Customer or MHVDC Connection Customer a copy of the countersigned Interconnection Study Agreement within ten (10) Business Days after the Transmission Provider notifies Interconnection Customer that it has accepted the Interconnection Request as valid pursuant to Section 3.3.3 of this GIP. In addition, within ten (10) Business Days after notifying Interconnection Customer that an Interconnection Request is accepted as valid, Transmission Provider shall submit a summary of the Interconnection Request to Interconnection Customer or MHVDC Connection Customer and likely affected Transmission Owners. All acknowledgments and other communications may be made via e-mail and/or other electronic means.

### **3.3.3 Review of Interconnection Request and Cure of Deficiencies.**

An Interconnection Request will not be considered to be a valid request until all items in Section 3.3.1 have been received by Transmission Provider. If an Interconnection Request fails to meet the requirements set forth in Section 3.3.1, Transmission Provider shall notify Interconnection Customer or MHVDC Connection Customer within fifteen (15) Business Days of receipt of the initial Interconnection Request either that the Transmission Provider has accepted the Interconnection Request as valid or has determined that the Interconnection Request does not constitute a valid request due to one or more deficiencies. In the event Transmission Provider determines that the Interconnection Request does not constitute a valid request, Transmission Provider shall

also provide an explanation of the reasons for such determination. Interconnection Customer shall have ten (10) Business Days from the date that the Transmission Provider identifies the Interconnection Request as deficient to provide the additional requested information needed to constitute a valid request. In the event Transmission Provider discovers or verifies a deficiency later in the GIP process, Transmission Provider will notify Interconnection Customer or MHVDC Connection Customer as soon as practicable. Interconnection Customer or MHVDC Connection Customer shall provide Transmission Provider the additional requested information needed to constitute a valid request no later than ten (10) Business Days after the request is made. Failure by Interconnection Customer or MHVDC Connection Customer to comply with this Section 3.3.3 will result in the Interconnection Request not being processed until such deficiency is cured. In the event that the deficiency is not cured within the required ten (10) business day period, the Interconnection Request shall immediately be deemed withdrawn as of the date of such deadline without any further cure period. The Transmission Provider shall provide written notice to Interconnection Customer or MHVDC Connection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal upon the expiration of the ten (10) business day period. Any refunds of deposits will be processed in accordance with Section 3.6 of this GIP.

#### **3.3.4 Scoping Meeting.**

The Transmission Provider shall establish a date agreeable to Interconnection Customer and Transmission Owner for a Scoping Meeting, and such date shall be at least five (5) Business Days prior to and no more than forty-five (45) Calendar days prior to the kick-off of the Definitive Planning Phase, unless otherwise mutually agreed upon by Transmission Provider, Transmission Owner and Interconnection Customer or MHVDC Connection Customer. The Transmission Provider, Interconnection Customer, or MHVDC Connection Customer, and Transmission Owner must attend the Scoping Meeting. Transmission Provider shall use Reasonable Efforts to include any other Affected System Operators in the Scoping Meeting.

The purpose of the Scoping Meeting shall be to discuss alternative interconnection options, to exchange information including any transmission data that would reasonably be expected to impact such interconnection options, to analyze such information and to determine the potential feasible Points of Interconnection. Transmission Provider, Transmission Owner and Interconnection Customer or MHVDC Connection Customer will bring to the meeting such technical data including, but not limited to, known: (i) general facility loadings, (ii) general instability issues, (iii) general short circuit issues, (iv) general voltage issues including voltage and frequency ride-through capabilities for the Generating Facility, (v) general power quality issues including voltage flicker, harmonics, (vi) general reliability issues; and (vii) diagrams and/or layout of applicable substations as may be reasonably required to accomplish the purpose of the meeting. Transmission Provider and Interconnection Customer or MHVDC Connection Customer will also bring to the meeting personnel and other resources as may be reasonably required to accomplish the purpose of the meeting in the time allocated for the meeting. On the basis of the meeting, Interconnection Customer or MHVDC Connection Customer may modify its Point of Interconnection/Connection and one or more available alternative Point(s) of Interconnection/Connection. Interconnection Customer or MHVDC Connection Customer will have until the beginning of DPP Phase I submit to Transmission Provider its modified Point of Interconnection/Connection or one of its alternative Point(s) of Interconnection/Connection as a result of the Scoping Meeting; if the modified Point of Interconnection includes shared Interconnection Customer Interconnection Facilities, the Interconnection Customer shall submit a consent agreement that meets requirements of Section 3.3.1.4 by the beginning of DPP Phase I. The duration of the meeting shall be sufficient to accomplish its purpose.

### **3.4 OASIS Posting.**

**3.4.1** Transmission Provider will maintain on its OASIS or its website a list of all Interconnection Requests. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. The

list will identify, for each Interconnection Request: (i) the maximum summer and winter megawatt electrical output; (ii) the location by county and state; (iii) the station or transmission line or lines where the interconnection will be made; (iv) the projected In-Service Date; (v) the status of the Interconnection Request, and when applicable, Definitive Planning Phase Queue Position; (vi) the type of Interconnection Service being requested or whether the Interconnection Request is for Injection Rights; (vii) the availability of any studies related to the Interconnection Request; (viii) the date of the Interconnection Request; (ix) the type of Generating Facility to be constructed including technology and fuel type); (x) for Interconnection Requests that have not resulted in a completed interconnection, an explanation as to why it was not completed; (xi) associated Interconnection System Impact Study phase costs by Definitive Planning Phase; and (xii) for a Generating Facility Replacement, the planned date of cessation of operation for the Existing Generating Facility or actual date if the Existing Generating Facility already has ceased commercial operations, the expected Commercial Operation Date of the replacement facility and requested Interconnection Service. [Except for projects submitted through the ERAS process as noted in Section 3.9, t](#)The list will not disclose the identity of Interconnection Customer or MHVDC Connection Customer until Interconnection Customer or MHVDC Connection Customer executes a GIA or a TCA or requests that Transmission Provider file an unexecuted GIA or TCA with FERC. Transmission Provider shall post to its OASIS site or its website any deviations from the study timelines set forth herein. Interconnection Study reports shall be posted to the Transmission Provider's OASIS site or its website prior to the meeting between Interconnection Customer and Transmission Provider to discuss the applicable study results. Transmission Provider shall also post any known deviations in the Generating Facility's In-Service Date.

Transmission Provider will also maintain on its OASIS or its website a Transmission Owner's general non-binding indication as to whether the Transmission Owner intends to elect to fund the capital costs (self-fund) for Network Upgrades and System Protection Facilities. If Transmission Provider posts this information on its website, a link to the



information must be provided on Transmission Provider's OASIS site.

**3.4.2** Transmission Provider will maintain on its OASIS or its website summary statistics related to processing Interconnection Studies pursuant to Interconnection Requests, updated quarterly. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. For each calendar quarter, Transmission Providers must calculate and post the information detailed in sections 3.4.2.1 through 3.4.2.6. For the Study Metrics provided in Sections 3.4.2.2 and 3.4.2.3, if the relevant 10 Business Days includes one or more holidays, then the number of Business Days will be correspondingly extended and the study will not be considered untimely if completed within the extended period.

**3.4.2.1 Preliminary System Impact Studies in Definitive Planning Phase I Processing Time.**

- (A) Number of Interconnection Requests that had Preliminary System Impact Studies in Definitive Planning Phase I completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Interconnection Requests that had Preliminary System Impact Studies in Definitive Planning Phase I completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than the sum of 10 Business Days for Model Review and 65 Calendar Days for the Preliminary System Impact Study, as per the timelines listed in 7.3.1 of the Generator Interconnection Procedures ("GIP") after the periodic, scheduled start of the Definitive Planning Phase I, which shall commence in conformity with Section 3.3.1 of the GIP,
- (C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Preliminary System Impact Studies in Definitive Planning Phase I exceeding the sum of 10 Business Days for Model Review and 65 Calendar Days for the

- Preliminary System Impact Study as per the timelines listed in 7.3.1 of the GIP, after the periodic, scheduled start of the Definitive Planning Phase I,
- (D) Mean time (in Calendar Days), for Preliminary System Impact Studies in Definitive Planning Phase I completed within Transmission Provider's coordinated region during the reporting quarter, from the periodic, scheduled start of the Definitive Planning Phase I, to the date when Transmission Provider provided the completed Preliminary System Impact Study to the Interconnection Customer,
- (E) Percentage of Interconnection Requests with Preliminary System Impact Studies in Definitive Planning Phase I exceeding the sum of 10 Business Days for Model Review and 65 Calendar Days for the Preliminary System Impact Study to complete this reporting quarter, calculated as the sum of 3.4.2.1(B) plus 3.4.2.1(C) divided by the sum of 3.4.2.1(A) plus 3.4.2.1(C)).

**3.4.2.2 Revised System Impact Studies in Definitive Planning Phase II Processing Time.**

- (A) Number of Interconnection Requests that had Revised System Impact Studies in Definitive Planning Phase II completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Interconnection Requests that had Revised System Impact Studies in Definitive Planning Phase II completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than the sum of 6 Business Days for Model Review and 75 Calendar Days for the Revised System Impact Study after the date the Interconnection Customer Decision Point I window expired, as per the timelines listed in Section 7.3.2 of the GIP,
- (C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Revised System

Impact Studies in Definitive Planning Phase II exceeding the sum of 6 Business Days for Model Review and 75 Calendar Days for the Revised System Impact Study, as per the timelines listed in 7.3.2 of the GIP, after the Interconnection Customer Decision Point I window expired,

- (D) Mean time (in Calendar Days), for Revised System Impact Studies in Definitive Planning Phase II completed within Transmission Provider's coordinated region during the reporting quarter, from the day after the Interconnection Customer Decision Point I window expired to the date when Transmission Provider provided the completed Revised System Impact Study to the Interconnection Customer,
- (E) Percentage of Interconnection Requests with Revised System Impact Studies in Definitive Planning Phase II exceeding the sum of 6 Business Days for Model Review and 75 Calendar Days for the Revised System Impact Study, to complete this reporting quarter, calculated as the sum of 3.4.2.2(B) plus 3.4.2.2(C) divided by the sum of 3.4.2.2(A) plus 3.4.2.2(C)).

### **3.4.2.3 Final System Impact Studies in Definitive Planning Phase III Processing Time.**

- (A) Number of Interconnection Requests that had Final System Impact Studies in Definitive Planning Phase III completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Interconnection Requests that had Final System Impact Studies in Definitive Planning Phase III completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than the sum of 6 Business Days for Model Review and 50 Calendar Days as per the timelines listed in 7.3.3 of the GIP, after the Interconnection Customer Decision Point II window expired,
- (C) At the end of the reporting quarter, the number of active valid

Interconnection Requests with ongoing incomplete Final System Impact Studies in Definitive Planning Phase III exceeding the sum of 6 Business Days for Model Review and 50 Calendar Days, as per the timelines listed in 7.3.3 of the GIP, after the Interconnection Customer Decision Point II window expired,

- (D) Mean time (in Calendar Days), for Final System Impact Studies in Definitive Planning Phase III completed within Transmission Provider's coordinated region during the reporting quarter, from the day after the Interconnection Customer Decision Point II window expired to the date when Transmission Provider provided the completed Final System Impact Study to the Interconnection Customer,
- (E) Percentage of Interconnection Requests with Final System Impact Studies in Definitive Planning Phase III exceeding the sum of 6 Business Days for Model Review and 50 Calendar Days to complete this reporting quarter, calculated as the sum of 3.4.2.3(B) plus 3.4.2.3(C) divided by the sum of 3.4.2.3(A) plus 3.4.2.3(C)).

#### **3.4.2.4 Interconnection Facilities Studies Processing Time.**

- (A) Number of Interconnection Requests that had Interconnection Facilities Studies for Interconnection Facilities or Connection Facilities that are completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Interconnection Requests that had Interconnection Facilities Studies for Interconnection Facilities or Connection Facilities that are completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than 90 Calendar Days after the Interconnection Customer Decision Point I window expired,
- (C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Interconnection

Facilities Studies for Interconnection Facilities or Connection Facilities where such Interconnection Requests had exceeded more than 90 Calendar Days,

- (D) Mean time (in Calendar Days), for Interconnection Facilities Studies for Interconnection Facilities or Connection Facilities completed within Transmission Provider's coordinated region during the reporting quarter, calculated from the day after the Interconnection Customer Decision Point I window expired to the date when Transmission Provider provided the completed Interconnection Facilities Study for Interconnection Facilities or Connection Facilities to the Interconnection Customer,
- (E) Percentage of Interconnection Requests with delayed Interconnection Facilities Studies for Interconnection Facilities or Connection Facilities this reporting quarter, calculated as the sum of 3.4.2.4(B) plus 3.4.2.4(C) divided by the sum of 3.4.2.4(A) plus 3.4.2.4(C)).

**3.4.2.5 Interconnection Facilities Studies for Network Upgrades Processing Time.**

- (A) Number of Interconnection Requests that had Interconnection Facilities Studies for Network Upgrades that are completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Interconnection Requests that had Interconnection Facilities Studies for Network Upgrades that are completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than 90 Calendar Days after completion of the Definitive Planning Phase III Final System Impact Study,
- (C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Interconnection Facilities Studies for Network Upgrades where such Interconnection Requests had exceeded more than 90 Calendar Days,

- (D) Mean time (in Calendar Days), for Interconnection Facilities Studies for Network Upgrades completed within Transmission Provider's coordinated region during the reporting quarter, calculated from the day after completion of the Definitive Planning Phase III Final System Impact Study to the date when Transmission Provider provided the completed Interconnection Facilities Study for Network Upgrades to the Interconnection Customer,
- (E) Percentage of Interconnection Requests with delayed Interconnection Facilities Studies for Network Upgrades this reporting quarter, calculated as the sum of 3.4.2.5(B) plus 3.4.2.5(C) divided by the sum of 3.4.2.5(A) plus 3.4.2.5(C).

**3.4.2.6 Interconnection Requests Withdrawn from Interconnection Queue.**

- (A) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter,
- (B) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before the start of the Definitive Planning Phase I, pursuant to Section 3.3.1 of the GIP,
- (C) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter from start of the Definitive Planning Phase I, pursuant to Section 3.3.1 of the GIP, to at or before the Interconnection Customer Decision Point I window expired,
- (D) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter after the Interconnection Customer Decision Point I window expired to at or before the Interconnection Customer Decision Point II window expired,
- (E) Number of Interconnection Requests withdrawn from Transmission

Provider's interconnection queue during the reporting quarter after the Interconnection Customer Decision Point II window expired to before execution of a Generator Interconnection Agreement or Interconnection Customer requests the filing of an unexecuted, new interconnection agreement

- (F) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue after execution of a Generator Interconnection Agreement or Interconnection Customer requests the filing of an unexecuted, new interconnection agreement,
- (G) Mean time (in Calendar Days), for all withdrawn Interconnection Requests, from the date when the request was determined to be valid to when Transmission Provider received the request to withdraw from the queue.

**3.4.3** Transmission Provider is required to post on OASIS or its website the measures in paragraph 3.4.2.1(A) through paragraph 3.4.2.6(G) for each calendar quarter within 30 Calendar Days of the end of the calendar quarter. Transmission Provider will keep the quarterly measures posted on OASIS or its website for three calendar years with the first required report to be in the first quarter of 2020. If Transmission Provider retains this information on its website, a link to the information must be provided on Transmission Provider's OASIS site.

**3.4.4** In the event that any of the values calculated in paragraphs 3.4.2.1(E), 3.4.2.2(E), 3.4.2.3(E), 3.4.2.4(E), or 3.4.2.5(E) exceeds 25 percent for two consecutive calendar quarters, Transmission Provider will have to comply with the measures below for the next four consecutive calendar quarters and must continue reporting this information until Transmission Provider reports four consecutive calendar quarters without the values calculated in 3.4.2.1(E), 3.4.2.2(E), 3.4.2.3(E), 3.4.2.4(E), or 3.4.2.5(E)) exceeding 25 percent for two consecutive calendar quarters:

- (i) Transmission Provider must submit a report to the Commission describing the reason for each study or group of clustered studies pursuant to an Interconnection Request that exceeded its deadline for completion (excluding any allowance for Reasonable Efforts). Transmission Provider must describe the reasons for each study delay and any steps taken to remedy these specific issues and, if applicable, prevent such delays in the future. The report must be filed at the Commission within 45 Calendar Days of the end of the calendar quarter.
- (ii) Transmission Provider shall aggregate the total number of employee-hours and third party consultant hours expended towards interconnection studies within its coordinated region that quarter and post on OASIS or its website. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. This information is to be posted within 30 Calendar Days of the end of the calendar quarter.

### **3.5 Coordination with Affected Systems.**

Except as modified by Sections [3.5.1](#) and [3.5.2](#) of these GIP, Interconnection Customer or MHVDC Connection Customer, Transmission Provider, Transmission Owner and Affected System Operator shall each coordinate and cooperate on studies required to determine the impact of the Interconnection Request on Affected Systems. Transmission Provider will include such Affected System Operators, whose representatives either abide by FERC's Standards of Conduct pursuant to 18 C.F.R Parts 37 and 358 or have executed a non-disclosure agreement with Transmission Provider, in all meetings held with Interconnection Customer as required by the GIP. If the Affected System is not under the functional control of Transmission Provider, the Affected System Operator's procedures shall be applicable. Interconnection Customer or MHVDC Connection Customer will be separately responsible to adhere to the Affected Systems Operator's procedures and costs related to studies and modifications to the Affected System.

Interconnection Customer or MHVDC Connection Customer will cooperate with



Transmission Provider in all matters related to the conduct of studies and the determination of modifications to Affected Systems. Transmission Provider may limit Interconnection Service or Injection Rights for an Interconnection Request until needed reliability upgrades on an Affected System(s) are complete under separate agreements. Each Interconnection Customer or MHVDC Connection Customer shall provide notice to Transmission Owner and Transmission Provider that the facilities built under such agreements are in service.

**3.5.1 Additional Requirements for Interconnection Requests Subject to JTIQ.**

Transmission Provider shall use the rules and procedures contained in Section 9.4.2 of Rate Schedule 6 (MISO-SPP JOA) to apply to Interconnection Customers and Interconnection Requests that have been designated for inclusion in a JTIQ Participation Group or a JTIQ Commitment Group. Interconnection Customers included in a JTIQ Screening Group, JTIQ Participation Group or a JTIQ Commitment Group shall be responsible for adhering to all applicable requirements set forth Section 9.4.2 of the Rate Schedule 6 (MISO-SPP JOA), these Generator Interconnection Procedures, the GIA, and applicable JTIQ Service Agreements.

**3.5.1.1: Inclusion in a JTIQ Screening Group, JTIQ Participation Group, and JTIQ Commitment Group.**

(1) Interconnection Requests shall be included in the JTIQ Screening Group if they are submitted into a DPP study group [or an ERAS](#) that: (1) has a **study commencement or kick off date** that is after the date that the Parties' respective Boards of Directors have approved a JTIQ Portfolio; and (2) has not commenced DPP Phase I studies [or an ERAS](#) as of the date that the Transmission Provider and

SPP have declared the JTIQ Portfolio fully subscribed.

(2) Interconnection Requests shall be included in a JTIQ Participation Group if they meet the following criteria:

- (a) the Interconnection Request is determined to have an impact greater than five percent (5%) distribution factor (OTDF or PTDF<sup>1</sup>) on one or more facilities of SPP's transmission system modelled with all transmission facilities rated 100 kV and above; and
- (b) the Interconnection Request is determined to have greater than 1.00 MW (positive) impact on at least one JTIQ Upgrade included in the JTIQ Portfolio.

Any new Interconnection Request for an Existing Generating Facility that is seeking to convert to or increase the level of NRIS service will only be included in the JTIQ Participation Group to the extent of any additional ERIS service requested.

(3) Interconnection Customers shall enter a JTIQ Commitment Group upon obtaining an effective GIA and JTIQ Commitment Agreement that obligate such Interconnection Customer to pay, and provide security for, JTIQ Generator Charges. Placement into the applicable JTIQ Commitment Group shall be governed by the terms of the Commitment Agreement and Section 2 of

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<sup>1</sup> Power Transfer Distribution Factor (PTDF) - The percentage of power transfer flowing through a facility or a set of facilities for a particular transfer when there are no contingencies. Outage Transfer Distribution Factor (OTDF) - The percentage of a power transfer that flows through the monitored facility for a particular transfer when the contingency facility is switched out of service.

Attachment JJJ to the Tariff.

**3.5.2. Application of Affected Systems Coordination Procedures to Interconnection Requests Included in an Expedited Resource Addition Study**

The Transmission Provider shall apply to ERAS Interconnection Requests, and the ERAS Interconnection Customer shall adhere to, the same coordination procedures and same screening criteria applicable to Interconnection Requests included in a DPP Study Group with the following exceptions: (1) The Transmission Provider will submit all information necessary to enable an Affected System to study the impacts of an ERAS Interconnection Request not later than ten (10) Calendar Days prior to the kickoff of the applicable ERAS study for such project; (2) The Transmission Provider will provide any affected systems analysis received from the affected system to the ERAS Interconnection Customer promptly upon receipt; (3) In the event that affected systems studies and cost information are not available at the time the EGIA is tendered, such EGIA shall include an obligation to execute any agreements for the study, construction, or funding of Network Upgrades identified by the affected system within fifteen (15) Calendar Days after such agreement is tendered for execution to the Interconnection Customer; (4) The Transmission Provider shall submit ERAS Interconnection Requests to the applicable affected system individually and request that such affected system study

the impacts of ERAS Interconnection Requests on a serial basis; and (5) For those affected systems where MISO and the affected system utilize a specified point in MISO's multi-phase process such as a Decision Point or phase kickoff date to establish the queue priority date of MISO Interconnection Requests, MISO shall assert a queue priority date for ERAS projects as of the date MISO commences the ERAS System Impact Study unless the controlling agreement between MISO and the affected system expressly provide an alternate queue priority date for ERAS projects. Interconnection requests with an earlier queue priority date as determined in accordance with this Section 9.4.3(a) will have a higher relative queue priority than those with a later queue priority date.

### **3.6 Withdrawal.**

Interconnection Customer or MHVDC Connection Customer may withdraw its Interconnection Request at any time by written notice of such withdrawal to Transmission Provider. In addition, if Interconnection Customer fails to adhere to all requirements of the GIP, except as provided in Section 13.5 (Disputes), Transmission Provider shall deem the Interconnection Request to be withdrawn and shall provide written notice to Interconnection Customer or MHVDC Connection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal. Unless otherwise provided in this GIP, upon receipt of such written notice, Interconnection Customer or MHVDC Connection Customer shall have fifteen (15) Business Days in which to either respond with information or actions that cure the deficiency or to notify Transmission Provider of its intent to pursue Dispute Resolution.

In the event that an MHVDC Transmission Connection Request is withdrawn or deemed

withdrawn in accordance with the terms of Attachment GGG to the Tariff, then all Interconnection Requests associated with that MHVDC Transmission Connection Request will also be deemed withdrawn.

Withdrawal prior to or during Interconnection Customer Decision Point I shall result in the loss of the Interconnection Customer's or MHVDC Connection Customer's Definitive Planning Phase Queue Position. Withdrawal after Interconnection Customer Decision Point I, but prior to or during Interconnection Customer Decision Point II shall result in the loss of the Interconnection Customer's or MHVDC Connection Customer's Definitive Planning Phase Queue Position and forfeiture of the Definitive Planning Phase entry milestone (M2) payment. Withdrawal after Interconnection Customer Decision Point II shall result in the loss of Interconnection Customer's or MHVDC Connection Customer's Definitive Planning Phase Queue Position and forfeiture of the M2, M3 and M4 milestone payments, except as otherwise provided in Section 7.6.2 and 7.8.

If an Interconnection Customer or MHVDC Connection Customer disputes the withdrawal and loss of its applicable queue position, then during Dispute Resolution, the Interconnection Customer's or MHVDC Connection Customer's Interconnection Request is eliminated from the queue until such time that the outcome of Dispute Resolution would restore its applicable queue position.

An Interconnection Customer or MHVDC Connection Customer that withdraws or is deemed to have withdrawn its Interconnection Request shall pay to Transmission Provider all costs that Transmission Provider prudently (i) incurs prior to the Transmission Provider's receipt of notice described above and (ii) will incur as a result of the withdrawal. Interconnection Customer or MHVDC Connection Customer must pay all monies due to Transmission Provider before it is allowed to obtain any Interconnection Study data or results.

Transmission Provider shall (i) update the OASIS list of Interconnection Requests and

(ii) refund to Interconnection Customer or MHVDC Connection Customer any portion of the Interconnection Customer's or MHVDC Connection Customer's study deposit that exceeds the costs that Transmission Provider has incurred or will incur as a result of the withdrawal as described in Section 13.3, including interest earned on the Interconnection Customer's or MHVDC Connection Customer's study deposit and Definitive Planning Phase entry milestone payment while held in Transmission Provider's interest-bearing, money market account, or if such account does not exist, then the interest calculated in accordance with 18 C.F.R. Section 35.19a(a)(2)(iii). In the event of such withdrawal, Transmission Provider, subject to the confidentiality provisions of Section 13.1, shall provide, at Interconnection Customer's or MHVDC Connection Customer's request, all information that Transmission Provider developed for any completed study conducted up to the date of withdrawal of the Interconnection Request.

### **3.7 Additional requirements for Generating Facility Replacement Requests.**

#### **3.7.1 Requirements for Replacement Generating Facility Requests.**

- i) Except as provided in Section 3.7.1(i)(a) of this Attachment X, any Replacement Generating Facility must connect to the Transmission System at the same electrical Point of Interconnection (i.e. same voltage level at the interconnecting substation) as the Existing Generating Facility.
  - a. An Interconnection Customer shall perform, and Transmission Provider shall validate an evaluation study utilizing the latest available DPP phase model to ensure the Replacement Generating Facility connecting to a different Point of Interconnection will: (1) connect to the same voltage level unless the same voltage level is not available by the COD; (2) not cause new constraints, as demonstrated by a contingency analysis performed in accordance with BPM-015; (3) and change the Power Transfer Distribution Factor less than 5% on any branch unless it is a zero impedance element or a line on the shortest path without queued Interconnection Requests from the existing Point of Interconnection to the

new Point of Interconnection.

- ii) The request for Generating Facility Replacement must be submitted to the Transmission Provider by the Interconnection Customer for its Existing Generating Facility at least one (1) year prior to the date that the Existing Generating Facility will cease operation unless the Existing Generating Facility is in suspension or approved for suspension pursuant to Section 38.2.7 of the Tariff or in Forced Outage, and at least one (1) year prior to the Commercial Operation Date for the Replacement Generating Facility. For the Existing Generating Facility approved for suspension or in forced outage, the request for Generating Facility Replacement must be submitted prior to 25th cumulative month of suspension or forced outage within 5 years period. The request shall include the planned or actual date of cessation of operation for the Existing Generating Facility and the expected Commercial Operation Date for the Replacement Generating Facility.
- iii) The Interconnection Customer shall request only ER Interconnection Service for the Replacement Generating Facility if the Existing Generating Facility has only ER Interconnection Service. The request for NR Interconnection Service for the Replacement Generating Facility, when the Existing Generating Facility has only ER Interconnection Service, shall be submitted as a separate Interconnection Request and shall proceed through the Definitive Planning Phase cycle in the same manner as an Interconnection Request for a new Generating Facility. The Interconnection Customer may request either ER Interconnection Service or NR Interconnection Service for the Replacement Generating Facility if the Existing Generating Facility has NR Interconnection Service. Requests for ER or NR Interconnection Service that exceed the amount of Interconnection Service for the Existing Generating Facility shall be processed as a new Interconnection Request for the amount of such excess pursuant to Section 3.7.1.iv of this Attachment X to the Tariff.

- iv) If the Replacement Generating Facility requires Interconnection Service (MW) in excess of that of the Existing Generating Facility that is being replaced, Interconnection Customer shall initiate a separate request for Interconnection Service in an amount (MW) equal to the excess. Such Interconnection Request shall be assigned a new Queue Position, and proceed through the Definitive Planning Phase cycle in the same manner as an Interconnection Request for a new Generating Facility.
- v) If the request for Generating Facility Replacement requests less Interconnection Service (MW) than that of the Existing Generating Facility that is being replaced, the owner shall be required to submit an Attachment Y Notice for the amount (MW) of such decrease in generating capacity to the Transmission Provider prior to the execution of the GIA of the Replacement Generating Facility or the election by the Interconnection Customer to proceed unexecuted. If the Interconnection Customer indicates in its Interconnection Request that the Reliability Assessment Study shall include analysis of a retirement scenario, the timing of the associated Attachment Y will supersede the requirements of Section 38.2.7 of the Tariff, as the Reliability Assessment Study completed as part of generator replacement process will determine the system impacts for the loss of the generation.
- vi) Except as provided in Section 3.7.1(vi)(a) of this Attachment X, no request for Generating Facility Replacement may be made until twelve (12) months have elapsed from: (1) the date of any assignment of the Generator Interconnection Agreement applicable to the Existing Generating Facility, or (2) the date of sale or other transfer of such Existing Generating Facility. When an Existing Generating Facility is owned by more than one party and such coownership has existed for at least twelve (12) months prior to the date that the request for Generating Facility Replacement has been made, the restrictions described in this paragraph on transfers shall not preclude such co-owners from determining their respective



ownership percentages in the Replacement Generating Facility, provided that the ownership interests in the Replacement Generating Facility is disclosed in the request of the Interconnection Customer that owns or controls the Existing Generating Facility pursuant to an existing Generator Interconnection Agreement for Generating Facility Replacement. Upon submission of a request for Generating Facility Replacement, the Interconnection Customer shall not sell or otherwise transfer the Existing Generating Facility, the Replacement Generating Facility, nor assign the applicable Generator Interconnection Agreement except as provided in Section 3.7.1(vi)(a) of this Attachment X until such time as the Transmission Provider completes evaluation of the request for Generating Facility replacement unless the Interconnection Customer first withdraws such request for Generating Facility Replacement in writing. In the event that the Transmission Provider notifies Interconnection Customer that the request for Generating Facility Replacement has been granted, the prohibition on sales, transfers, or assignments not authorized by this Attachment X shall be extended in accordance with Section 3.7.5 of this Attachment X. For purposes of this Section 3.7.1 (vi), prohibited assignments include assignments to affiliates pursuant to Article 19.1 of the *pro forma* Generator Interconnection Agreement or any analogous provision in the applicable GIA.

- a. An Interconnection Customer may: (1) sell or otherwise transfer its Existing Generating Facility, (2) assign its Generator Interconnection Agreement; or (3) sell or otherwise transfer a Replacement Generating Facility to an entity or entities meeting the requirements of Section 3.7.1(vi)(a)(1) below without violating this Section 3.7.1(vi) if all of the following conditions are satisfied prior to such sale, assignment or transfer becoming effective:
  1. The Interconnection Customer that owns or controls the Existing Generating Facility pursuant to an existing Generator Interconnection Agreement demonstrates to the Transmission Provider that it both:

- i. Holds, directly or indirectly, not less than a 25% ownership interest in each entity receiving the applicable assignment or transfer as demonstrated through documentation of: (1) shares or a partnership interests in the transferee/assignee; (2) a right to receive at least 25% of net proceeds from the sale of the transferred or assigned generating facility; or (3) another form of interest in the transferee/assignee that is recognized by the Commission as equivalent to an ownership interest;
  - ii. Has the documented right to direct the performance of such entity with respect to any obligation under MISO's Tariff and Generator Interconnection Agreement applicable to the transferred Generating Facility; and
2. The Interconnection Customer that owns or controls the Existing Generating Facility pursuant to an existing Generator Interconnection Agreement and the entity that received the assignment or transfer commit in documentation to be supplied to the Transmission Provider prior to the effective date of any sale, assignment or transfer: (i) that the Interconnection Customer shall retain the ownership and control required by Section 3.7.1(vi)(a)(1) of this Attachment X until the Replacement Generating Facility achieves commercial operation in accordance with Section 3.7.5 of this Attachment X, unless the request for Generating Facility Replacement is denied or withdrawn; (ii) that the entity receiving the assignment or transfer under this section 3.7.1(vi) of this Attachment X agrees not to further sell, transfer or assign its interests in the Existing Generating Facility, Replacement Generating Facility, or Generator Interconnection Agreement

- except in accordance with this Attachment X; and (iii) to provide the Transmission Provider upon request with documentation demonstrating continued compliance with the requirements of Section 3.7.1(vi) of this Attachment X at any time prior to the date that the applicable Replacement Generating Facility achieves commercial operation; and
3. The Interconnection Customer receives the consent of the Transmission Provider, which consent shall be granted upon the Transmission Provider determining that the proposed transfer(s) or assignment(s) comply with the requirements of Section 3.7.1(vi)(a) of these Generator Interconnection Procedures.

A transfer, sale, or assignment of the Existing Generating Facility, Replacement Generating Facility, or applicable GIA that violates this Section 3.7.1 (vi) or Section 3.7.1(vi)(a) of Attachment X shall void the request for Generating Facility Replacement.

#### **3.7.1.1 Requirements for modification of Replacement Generating Facility Requests.**

The request for Replacement Generating Facility can be modified any time before the evaluation process is complete.

- 1) If the revised planned date of cessation of operation for the Existing Generating Facility is prior to the planned date of cessation of operation specified in original request, a new request for Replacement Generating Facility must be submitted at least one (1) year prior to the date that the Existing Generating Facility is planned to cease operation.
- 2) If the revised expected Commercial Operation Date for the Replacement Generating Facility is after the expected Commercial Operation Date for the Replacement Generating Facility in the original request, a new request for

Replacement Generating Facility must be submitted at least one (1) year prior to the date that the Existing Generating Facility is planned to cease operation, unless the Existing Generating Facility is in suspension pursuant to Section 38.2.7 of the Tariff or in Forced Outage.

### **3.7.2 Evaluation Process for Generating Facility Replacement Requests.**

The Transmission Provider will evaluate Generating Facility Replacement requests in the order in which they are submitted. The evaluation will consist of two studies: i) a Replacement Impact Study as set forth in Section 3.7.2.1 of the GIP, and ii) a Reliability Assessment Study as set forth in Section 3.7.2.2 of the GIP.

Transmission Provider shall use Reasonable Efforts to complete the Replacement Impact Study and Reliability Assessment Study and share results with the Interconnection Customer within one hundred eighty (180) Calendar Days of the request.

#### **3.7.2.1 Generating Facility Replacement—Replacement Impact Study.**

The Replacement Impact Study will include analyses to determine if the Replacement Generating Facility has a material adverse impact on the Transmission System when compared to Existing Generating Facility. The Replacement Impact Study may include steady-state (thermal/voltage), reactive power, short circuit/fault duty, and stability analyses, as necessary, to ensure that required reliability conditions are studied. If the Replacement Impact Study identifies any materially adverse impact from operating the Replacement Generating Facility when compared to the Existing Generating Facility, such impacts shall be deemed a Qualified Change, and in order to move forward, the Interconnection Customer must submit all information and milestone payments necessary for a valid Interconnection Request for a new Generating Facility pursuant to Section 3.3 of this GIP, be assigned queue priority as of the date such information and milestones are provided, and proceed through the Definitive Planning Phase cycle as an Interconnection Request for a new Generating Facility. In such event, the Interconnection Customer shall be subject to the timing and requirements of Section 38.2.7 of the Tariff for any

retirement of the Existing Generating Facility.

### **3.7.2.2 Generating Facility Replacement—Reliability Assessment Study**

The Reliability Assessment Study for the time period between the date that the Existing Generating Facility ceases commercial operations and the Commercial Operation Date of the Replacement Generating Facility shall evaluate the performance of the Transmission System to determine if thermal and/or voltage violations of applicable NERC Standards and Transmission Owner planning criteria are caused by removing the Existing Generating Facility from service prior to the Commercial Operation Date of the Replacement Generating Facility. This study shall compare the conditions on the Transmission System that would exist if the Existing Generating Facility is taken offline to the conditions on the Transmission System as they exist when the Existing Generating Facility is online. The scope of Reliability Assessment Study may include stability analysis as necessary. The Existing Generating Facility shall be responsible for mitigating any reliability violation identified in the Reliability Assessment Study and may not cease operations until all mitigations are implemented or are in service. Mitigation for this interim period may, as applicable, include: (i) redispatch/reconfiguration through operator instruction; and (ii) remedial action scheme or any other operating steps depending upon the type of reliability violation identified.

The Interconnection Customer may request in its Interconnection Request that the Reliability Assessment Study include an analysis equivalent to an Attachment Y study, as defined in Section 38.2.7 of the Tariff. The Transmission Provider shall include such analysis in the Reliability Assessment Study when requested. After completion of the Reliability Assessment Study with all reliability violations mitigated for the Existing Generating Facility, the Interconnection Customer may choose to submit an Attachment Y request to obtain suspension approval based on Reliability Assessment Study results before the GIA for the Replacement Generating Facility is executed or the Interconnection Customer elects to proceed unexecuted or sixty (60) days after the

request for Generating Facility Replacement request is withdrawn.

### **3.7.3 Generating Facility Replacement - Notice to Proceed**

Interconnection Customer requesting Generating Facility Replacement shall inform Transmission Provider within thirty (30) Calendar Days after having received results of the Replacement Impact Study and Reliability Assessment Study of its election to proceed and Transmission Provider will initiate an Interconnection Facilities Study or tender a draft GIA. Interconnection Customer that fails to provide an election to proceed within thirty (30) Calendar Days will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP.

### **3.7.4 Scope of Interconnection Facilities Study**

Interconnection Facilities Study focusing on the Interconnection Facilities for the Replacement Generating Facility will start, if the Transmission Provider determines such a study is necessary, upon Interconnection Customer's notice to proceed to the Transmission Provider after completion of the Replacement Impact Study and the Reliability Assessment Study. This Interconnection Facilities Study will identify estimates for cost and the time required to construct the Interconnection Facilities. Transmission Provider shall use Reasonable Efforts to complete this portion of the Interconnection Facilities Study within ninety (90) Calendar Days.

### **3.7.5 GIA for Generating Facility Replacement.**

Transmission Provider shall tender a draft *pro forma* GIA or GIAs or, if deemed appropriate, an amended GIA or GIAs that conforms to the *pro forma* GIA in effect at the time, within thirty (30) Calendar Days after the Interconnection Customer communicates its election to proceed with Generator Replacement if an Interconnection Facilities Study is not required or within thirty (30) Calendar Days after final Facility Study reports are provided to the Interconnection Customer. An Interconnection Customer that transferred or assigned a Replacement Generating Facility to one or more entities consistent with the

requirements of 3.7.1(vi)(a) may elect for each such entity to receive a separate GIA for its Replacement Generating Facility. The draft *pro forma* GIA shall include updated appendices describing the timing of Generating Facility Replacement and a condition that the GIA or GIAs cannot be assigned and the Replacement Generating Facility cannot be transferred to any other Party, including an affiliate of the Interconnection Customer other than as allowed by Section 3.7.1(vi)(a) of this Attachment X, until such date as the applicable Replacement Generating Facility achieves commercial operation. A transfer, sale, or assignment of the Existing Generating Facility, Replacement Generating Facility, or applicable GIA that violates this Section 3.7.5 shall be void and constitute a material breach of the GIA.

If the MW of a Generating Facility Replacement request is less than the MW of the Existing Generating Facility that is being replaced, the Interconnection Customer cannot make any additional Generating Facility Replacement requests after the first GIA for the Generating Facility Replacement is executed or the Interconnection Customer elects to proceed unexecuted.

### **3.8 Identification of Contingent Facilities.**

MISO identifies Contingent Facilities using the following three methods:

- i. Review all transmission facilities included in Interconnection System Impact Studies performed for an Interconnection Request that are: (1) listed in Appendix A of the Transmission Provider's Transmission Expansion Plan (MTEP) that are not yet in service, unless the Transmission Provider determines through the exercise of engineering judgment and after consultation with the applicable Transmission Owner(s), that such project does not address an existing overload and will not impact the injection of the Interconnection Request, such as age related line renewal projects that are not Baseline Reliability Project; or (2) identified as Network Upgrades through the System Impact Studies for higher queued Interconnection Requests that are not yet in service. Contingent Facilities shall be identified from this list as those facilities that meet the following criteria:

- a. Power Transfer Distribution Factor or Outage Transfer Distribution Factor  $\geq 5\%$  and;
  - b. MW impact (Power Transfer Distribution Factor or Outage Transfer Distribution Factor multiplied by generator output of the Interconnection Request)  $\geq 5$  MW, and;
  - c. MW impact (Power Transfer Distribution Factor or Outage Transfer Distribution Factor multiplied by generator output of the Interconnection Request)  $\geq 1\%$  of the Facility Rating.
- ii. All Network Upgrades identified in the Final System Impact Study for a given Interconnection Request pursuant to Section 7.3.3.3 of this GIP.
  - iii. Coordination with applicable Affected System parties to determine what Contingent Facilities have been identified through Affected System Studies based on their respective criteria.

The Contingent Facilities identified for a given Interconnection Request are the total of all facilities identified through each of the foregoing three methods as well as all JTIQ Upgrades included in a JTIQ Portfolio that meet one of these foregoing methods, for which the Interconnection Customer has been designated for inclusion in the JTIQ Participation Group. Transmission Provider shall provide an initial list of Contingent Facilities at the start of the Interconnection Customer Decision Point II, which list shall include facilities identified in the Revised System Impact Study performed pursuant to Section 7.3.2.3, and the final list of Contingent Facilities shall be documented in Appendix A of the Generator Interconnection Agreement for such Interconnection Request. The estimated Interconnection Facility and/or Network Upgrade costs and estimated in-service completion time of each identified Contingent Facility shall be provided in Appendix A of the Generator Interconnection Agreement for such Interconnection Request when this information is readily available and not commercially sensitive.

### **[3.9 Expedited Resource Addition Study.](#)**



### 3.9.1 Requirements for Expedited Resource Addition Study.

A request for processing through the Expedited Resource Addition Study made by an Interconnection Customer must meet the requirements listed in Section 3.3.1 above, plus the following requirements:

1. The Interconnection Request shall be accompanied by a written verification from the RERRA (or its documented representative) where the load to be served by the Generating Facility is located, subject to the procedures or methods the RERRA requires, that either:

i. the new, incremental load addition claimed by the Interconnection Customer is valid and not otherwise included in a resource plan or other process under the RERRA's purview.

a. The RERRA (or its documented representative) may provide such written verification in conjunction with another state or municipal agency or official (e.g. economic development authority or governor's office) to verify the new, incremental load addition above.

or

ii. the Generating Facility proposed by the Interconnection Customer will address a resource adequacy deficiency as determined by the RERRA, State, Load Serving Entity, or Interconnection Customer. The determination can be supported by:

a. A state energy forecast, or other forward-looking forecast;

b. Commencement of a state proceeding;

c. Review of a RERRA, LSE, or other state resource plan or document, which may include, but is not limited to: integrated resource plans, procurement plans, or other plan or study types;

- d. Response to a Request for Proposals (RFP); or
- e. Other process, or delegation of authority, as determined by the RERRA or RERRA regulations (including in retail choice states).

or

- iii. If an Interconnection Customer's new Generating Facility will address a resource adequacy deficiency and will either:
  - (1) serve retail choice load located in a state that limits the amount of load that can select retail choice to a percentage of the electric utility's average weather-adjusted retail sales;

or

- (2) serve load in a retail choice state and will be located in a retail choice state other than one that limits the amount of load that can select retail choice to a percentage of the electric utility's average weather adjusted retail sales,

then the Interconnection Customer will indicate the specific load on the Interconnection Request in Section 4.s of Appendix 1 and provide the evidence of determination in (ii) above, but will not be required to include a written verification from a RERRA as described in section 3.9.1(i) or (ii). The Transmission Provider shall notify the respective RERRA that an Interconnection Request for a new Generating Facility has been submitted requesting processing through the Expedited Resource Addition Study process and transmit a copy of the Interconnection Request to the respective RERRA. The RERRA shall have 10 Business Days from the date of the Transmission Provider's notification and the simultaneous transmittal of the copy of the Interconnection Request to notify the Transmission Provider that the Interconnection Request should not be

considered in the ERAS process. If no such notice is received at the end of 10 Business Days or if the RERRA notifies the Transmission Provider of its non-opposition prior to the end of the 10 Business Days, the Interconnection Request shall be studied through the Expedited Resource Addition Study process provided it meets the requirements listed in Section 3.3.1 and Section 3.9.2.

A RERRA's written verification is not intended to constitute or provide evidence of any final determination of need or suitability of the project for any purpose by the issuing entity beyond requesting that the Transmission Provider apply the ERAS process for such project.

and

2. An executed agreement evidencing that the projects submitted for ERAS processing is intended to be used by the entity with the claimed resource adequacy and/or reliability need. Such agreement shall take one of the following forms:
  - a. A Load Serving Entity acknowledgement to self-supply;
  - b. A Power Purchase Agreement (PPA) or similar off-take agreement between the Interconnection Customer submitting the project for ERAS consideration and the entity with the load to be served (including, but not limited to, an Alternative Retail Electric Supplier or its Load Serving Entity);
  - c. An agreement that calls for the Interconnection Customer to develop the Generating Facility described in the Interconnection Request and subsequently transfer ownership or control of such Generating Facility (Build-Own-Transfer Agreement) to the entity with the load to be served (including, but not limited to, an Alternative Retail Electric Supplier or its Load Serving Entity); or

- d. Other agreement between the entity submitting the Interconnection Request, including the RERRA verification letter as appropriate, and the entity with the load to be served (including, but not limited to, an Alternative Retail Electric Supplier or its Load Serving Entity), stating that the ERAS project will be used to meet an identified resource adequacy deficiency.

No changes shall be made to the ERAS Interconnection Request after submission.

### **3.9.2 Evaluation Process for Expedited Resource Addition Study.**

The Transmission Provider will evaluate Expedited Resource Addition Study requests in the order in which they are submitted using the time stamp from submission. The Transmission Provider will limit the maximum number of the ERAS Interconnection Requests studied in the ERAS process to no more than 68 projects total until the sunset date noted in Section 3.9.9. The Transmission Provider has carved out a maximum of 8 Interconnection Requests of the total 68 Interconnection Requests that may be submitted in accordance with 3.9.1.1(iii) to serve retail choice load and a maximum of 10 Interconnection Requests of the total 68 Interconnection Requests that may be submitted by Independent Power Producers (IPPs) with agreements with entities other than Load Serving Entities to ERAS until the sunset date noted in Section 3.9.9.

The Transmission Provider will limit the maximum size of each ERAS Quarterly Study Period to no more than 10 Interconnection Requests. If more than 10 Interconnection Requests are submitted for one ERAS Quarterly Study Period, those surpassing the limit will be studied in a subsequent ERAS study cycle in the order in which they were submitted. If an ERAS Interconnection Request is within a similar geographical area or impacts the same constraint as another ERAS Interconnection Request within the same ERAS Quarterly Study Period, as defined in the Generator Interconnection Business Process Manuals, then the later

submitted request(s) will be studied in a subsequent ERAS study cycle.

An Interconnection Request that does not meet the requirements of ERAS per Section 3.9.1 will be notified by the Transmission Provider and automatically moved to the standard Definitive Planning Phase queue unless the customer chooses to opt out by notifying Transmission Provider. If deemed ineligible for the ERAS process, the project will forfeit its Non-Refundable Deposit D1.

An Interconnection Customer submitting an Interconnection Request to a standard Definitive Planning Phase queue may also submit a request for ERAS for evaluation. If the request meets the requirements for ERAS processing set forth in Section 3.9.1, the Interconnection Request seeking processing through the standard Definitive Planning Phase queue must be withdrawn from the Definitive Planning Phase queue prior to ERAS kickoff. Upon withdrawing from the Definitive Planning Phase queue, the project will forfeit its Non-Refundable Deposit D1 and will be subject to penalties per Sections 7.6.2.1.1 and 7.8.

An Interconnection Request included in an active Definitive Planning Phase that has not reached Decision Point II may withdraw from the Definitive Planning Phase and move their Interconnection Request to the ERAS if they meet the requirements for ERAS processing. The project will be subject to penalties per Sections 7.6.2.1.1. and 7.8 and must meet the ERAS requirements in Section 3.9.1. Verification of Site Control will be specified in the Generator Interconnection Business Practice Manual to authenticate applicability. An Interconnection request that has been withdrawn from the Definitive Planning Phase after completion of Decision Point II may be moved to ERAS after a period of one year from the withdrawal date.

### **3.9.3 The Study.**

The Interconnection Study for ERAS will follow the same manner of NR

Interconnection Study as noted in Sections 3.2.1.2 and 3.2.2.2 needed to integrate the Generating Facility in the same manner as for any Generating Facility being designated as a Network Resource. Transmission Provider will use Reasonable Efforts to study ERAS Interconnection Requests from all Interconnection Customers regardless of Generating Facility within sixty (60) Calendar Days after the kickoff date for such study. The study will be performed for each Interconnection Request individually in a serial fashion based on their submission date per ERAS Quarterly Study Period. The study will result in a Final System Impact Study and any associated Interconnection Facilities Studies.

Transmission Provider shall include in the final study any Affected System Study results and information regarding Network Upgrades from Affected Systems provided the Affected System Study Reports are available. If Affected Systems analysis is not available for inclusion in the final study, the Transmission Provider shall provide such analysis separately when received from the applicable Affected System.

#### **3.9.4 Notice to Proceed to EGIA.**

Interconnection Customer requesting to be included in ERAS shall inform Transmission Provider of its election to proceed within five (5) Calendar Days after receiving the draft results of the Expedited Resource Additions Study. Interconnection Customer that fails to provide an election to proceed within five (5) Calendar Days will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP. EGIA execution shall occur no later than 30 Calendar days after receiving Interconnection Customer's election to proceed.

#### **3.9.5 GIA for Expedited Resource Addition Study Projects (EGIA).**

Transmission Provider shall tender a draft *pro forma* EGIA, that conforms to the *pro forma* GIA in effect at the time, as modified for ERAS, within five (5) Business Days after the Customer provides notice to proceed to EGIA

negotiations. In the event that SPP's JTIQ Service Agreement has not been provided to Interconnection Customer prior to tender of a draft EGIA, the draft EGIA shall include a milestone in Appendix B obligating Interconnection Customer to execute or request the unexecuted filing of SPP's JTIQ Service Agreement not later than 15 Calendar Days after such agreement has been tendered to the Interconnection Customer. Upon tender of the EGIA, the ERAS Interconnection Request shall be subject to the timing and procedures set forth in Sections 11.1 through 11.4 of these GIP.

Transmission Provider shall include in the final EGIA any Affected System Study results and information regarding Network Upgrades from Affected Systems provided the Affected System Study Reports are available. If Affected System analysis is not available for inclusion in the final EGIA, the Transmission Provider shall provide such analysis separately when received from the applicable Affected System. An Interconnection Request included in a JTIQ Participation Group shall adhere to all JTIQ procedures, and execute JTIQ Service Agreements as applicable.

### **3.9.6 Expedited Resource Addition Study Refunds.**

#### **3.9.6.1 Refunds of Expedited Resource Addition Study Deposits D2.**

Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Expedited Resource Addition Study. Any difference between the study deposit and the actual cost of the applicable Interconnection Study shall be paid by or refunded to the Interconnection Customer as applicable.

#### **3.9.6.2 Refunds of Expedited Resource Addition Study Entrance Milestone (M2).**

Interconnection Customers are eligible to receive one hundred percent (100%) refund of the Expedited Resource Addition Study entry milestone

(M2) upon withdrawal prior to execution of the EGIA. Interconnection Customers that terminate the EGIA after execution are eligible to receive a refund of the remaining M2 milestone payment.

### **3.9.6.3 Applicability of Expedited Resource Addition Milestone Payment**

#### **(M2) to Expedited Generator Interconnection Agreement Initial Payment.**

In the event the Interconnection Customer has elected to make its milestones in the form of cash, Transmission Provider will transfer the Expedited Resource Addition Study milestone to the appropriate Transmission Owner to satisfy the initial payment requirement of the Expedited Generator Interconnection Agreement, TCA or other applicable service agreement within forty-five (45) Calendar Days of the effective date of the Expedited Generator Interconnection Agreement, TCA or other applicable service agreement. The Transmission Provider shall refund milestone cash payments exceeding the initial payment requirement to the Interconnection Customer upon Interconnection Customer's request with Transmission Owner's consent, within forty-five (45) Calendar Days of the effective date of the Generator Interconnection Agreement. In the event the milestone payments are less than the initial payment requirement, the Interconnection Customer shall be responsible for the remaining payment to the Transmission Owner.

In the event that the Interconnection Customer withdraws and terminates its EGIA after execution of the EGIA by all parties or after EGIA is filed unexecuted the Interconnection Customer will be liable for the Network Upgrades documented in the EGIA and corresponding FCAs or MPFCAs, including those Network Upgrades arising from the Affected System Study process.



### **3.9.7 Transfer of Ownership of Expedited Resource Addition Study request.**

An Interconnection Customer participating in the Expedited Resource Addition Study may transfer its Interconnection Request to another entity only after execution of the EGIA or filing the EGIA unexecuted. The new entity must maintain the eligibility requirements per Sections 3.3.1 and 3.9.1.

### **3.9.8 Modifications of Expedited Resource Addition Study request.**

After entering the Expedited Resource Addition Study as defined in Section 3.9.3, no changes to the In-Service Date or Commercial Operation Date of the Generating Facility is permitted via section 4.4.4. An ERAS Interconnection Request that is deferred to the next available ERAS Quarterly Study Period will be allowed to extend its In-Service Date or Commercial Operation Date to be no more than three calendar years from the kickoff of the ERAS Quarterly Study Period in which its application is studied. At the completion of the Expedited Resource Addition Study, the Commercial Operation Date and In-Service Date shall be set forth in the EGIA.

### **3.9.9 Sunset of Expedited Resource Addition Study process.**

Following the effective date of the Tariff revisions accepted in Commission Docket No. ER25-\_\_\_\_, the Transmission Provider will terminate the ERAS process at the earlier of the completion of sixty-eight ERAS Interconnection Request studies or August 31, 2027. In the event the Transmission Provider determines the sunset date should be extended, the Transmission Provider shall submit an additional filing to the Commission pursuant to Section 205 of the Federal Power Act seeking such later sunset date. Upon termination of ERAS, the Transmission Provider will no longer accept new ERAS Interconnection Requests. Any ERAS Interconnection Requests accepted but cannot be studied due to the sunset of the ERAS process will automatically move to the standard Definitive Planning Phase queue unless the customer chooses to withdraw. If deemed ineligible for the ERAS process, the project will forfeit its Non-

[Refundable Deposit D1.](#)

**SECTION 4. QUEUE POSITION.**

**4.1 General.**

Transmission Provider shall assign a Queue Position based upon the date and time of receipt of the valid Interconnection Request; provided that, if the sole reason an Interconnection Request is not valid is the lack of required information on the application form, and Interconnection Customer or MHVDC Connection Customer provides such information in accordance with Section 3.3.1, then Transmission Provider shall assign Interconnection Customer or MHVDC Connection Customer a Queue Position based on the date the application was deemed complete by Transmission Provider. Moving a Point of Interconnection or Point of Connection shall result in a reassignment of the Queue Position except as otherwise noted in Section 4.4.

The Definitive Planning Phase Queue Position will be established based upon the date Interconnection Customer or MHVDC Connection Customer satisfies all of the requirements of Section 7.2 to enter the Definitive Planning Phase. The Definitive Planning Phase Queue Position will also be used for the determination of cost responsibility for the facilities necessary to accommodate the Interconnection Request, except for Group Studies. The determination of cost responsibility for common facilities necessary to accommodate two or more Interconnection Requests participating in a Group Study may depend on factors other than the Definitive Planning Phase Queue Position. A higher queued Interconnection Request is one that has been placed “earlier” in the queue in relation to another Interconnection Request that is lower queued. All Interconnection Requests within the same Definitive Planning Phase cycle shall have equal priority (i.e. similarly queued).

Transmission Provider may perform an Interconnection Study out of queue order at any time to the extent warranted by Good Utility Practice based upon: 1) the electrical

remoteness of the Generating Facility or MHVDC Transmission Line or 2) the request of Interconnection Customer or MHVDC Connection Customer, if Transmission Provider concurs with the request and has the resources to do the study provided Interconnection Customer or MHVDC Connection Customer accepts the financial risk that study resources may be reassigned, that its Interconnection Request is subject to review and restudy in queue order, and that its GIA or TCA may be amended to reflect a reassignment of upgrades as Interconnection Studies of higher queued Interconnection Requests are completed. Interconnection Customer or MHVDC Connection Customer may request the Transmission Provider's concurrence 1) in connection with a resource solicitation process, 2) when Interconnection Customer or MHVDC Connection Customer proposes to replace equipment due to catastrophic failure and such replacement is determined to be Qualified Change, and 3) for other reasons specific to Interconnection Customer or MHVDC Connection Customer.

#### **4.1.1 Limitation on queue study cycle size**

**4.1.1.1** The Transmission Provider will determine the maximum size of each Definitive Planning Phase study cycle (in MW) on a study region basis. The limit will be based on fifty-percent (50%) of the subregional non-coincident peak load in the summer peak study model. Projects with approved exemptions as noted in Sections 4.1.2.1 through 4.1.2.3 shall have priority in each Definitive Planning Phase study cycle limit.

The Transmission Provider shall post the MW value determined for a study group in accordance with this Section on the Transmission Provider's website at least ten (10) Business Days prior to the application deadline of that Definitive Planning study cycle.

**4.1.1.2** The Interconnection Request shall be included in the Definitive Planning Phase study cycle based on the earliest date and time of submission of Interconnection Requests until the maximum MW cap for the applicable

study region is met. Five (5) Business Days after the applicable maximum MW limit has been met, the Transmission Provider shall post the initial list of Interconnection Requests included in the study group for the upcoming study cycle on Transmission Provider's website.

**4.1.1.3** No later than thirty (30) Calendar Days prior to the scheduled DPP Phase 1 kickoff date for a Definitive Planning Phase study cycle, the Transmission Provider shall replace any Interconnection Requests that have been withdrawn from such Definitive Planning Phase study cycle after any applicable cure period with Interconnection Requests previously submitted but determined to exceed the maximum Definitive Planning Phase study cycle limit for that study region determined pursuant to section 4.1.1.1 of this GIP. The Transmission Provider shall select Interconnection Requests to replace withdrawn Interconnection Requests in the same study region based on the earliest date and time stamp of such Interconnection Requests until the maximum MW cap is met. The Transmission Provider shall notify such Interconnection Customers that their Interconnection Requests will be included in the study group no later than thirty (30) Calendar Days prior to the scheduled DPP Phase 1 kickoff date for a Definitive Planning Phase study cycle.

**4.1.1.4** Projects that have submitted a complete application and required deposits and milestone payments that were not included in a given DPP study cycle will maintain their position, as long as the application remains valid, to enter the next available study cycle.

**4.1.1.5** Upon conclusion of the third DPP study cycle following the effective date of the Tariff revisions accepted in Commission Docket No. ER25-\_\_\_\_, the Transmission Provider will conduct a review of the effectiveness of the limitation on queue study cycle size with stakeholders and determine

whether to terminate or modify the queue size limitation. In the event the Transmission Provider determines not to file modifications or a termination of the queue size limitation, the Transmission Provider shall submit an informational report to the Commission describing the results of this review upon completion of the stakeholder process.

**4.1.2** A valid Interconnection Request submitted for a DPP study cycle to which the provisions of Section 4.1.1 of this GIP apply, shall be included in such study cycle up to, but not to exceed, the limit, if the Transmission Provider receives documentation included with Interconnection Request demonstrating that one of the following exemptions applies to such Interconnection Request:

**4.1.2.1** The Interconnection Request seeks to convert ERIS service previously granted to an Existing Generating Facility to NRIS for the same Existing Generating Facility without requesting any additional increase in the service levels.

**4.1.2.2** The Interconnection Request seeks to add incremental new service to a Replacement Generating Facility that has an effective GIA.

**4.1.2.3** The Interconnection Request is for a Generating Facility that has completed the requirements of this GIP, including the requirements of Section 7.9.1, to request a Provisional Generator Interconnection Agreement (PGIA). In the event that an Interconnection Customer or MHVDC Connection Customer withdraws its requested PGIA after the thirty (30) Calendar Day timeline as noted in Section 4.1.1.3, then the Interconnection Request associated with that requested PGIA shall be withdrawn. The Interconnection Request shall also forfeit milestones in accordance with Section 7.9.3.

Transmission Provider may include the types of documentation required to demonstrate that one of the foregoing exemptions applies in the Generator Interconnection Business Practices Manual.

#### **4.2 Group Study Organization of Interconnection Studies.**

Interconnection System Impact Studies and Interconnection Facilities Studies may be performed in a Group Study format, whenever applicable, in the Definitive Planning Phase, except when a particular Interconnection Request is sufficiently electrically remote from others that it cannot reasonably be grouped with other Interconnection Requests. Interconnection Requests for both ER Interconnection Service and NR Interconnection Service may be part of a Group Study at the option of Transmission Provider. An Interconnection Request's inclusion in a Group Study will not relieve Transmission Provider from meeting the timelines provided in the GIP.

Grouping shall be implemented on the basis of electrical proximity. Transmission Provider may elect to perform Group Studies: (i) in connection with a resource solicitation process with the concurrence of Transmission Provider; (ii) when a coordinated study with an Affected System Operator will be performed that involve Interconnection Requests in the generator interconnection queue of Transmission Provider and of the Affected System Operator; (iii) to identify Common Use Upgrades; or (iv) at the request of a group of affected Interconnection Customers or MHVDC Connection Customers.

If item (i) above applies and Transmission Owner concurs, the solicitor must (a) be authorized by Interconnection Customers participating in the solicitation to act as the agent for all the Interconnection Requests submitted by Interconnection Customers, (b) maintain valid Interconnection Requests, (c) submit all Interconnection Requests at the same time, (d) submit a reasonable number of study portfolios (*i.e.*, a mixture of projects meeting the requirements of the solicitation that are studied in parallel), and (e) select one portfolio prior to the start of the Interconnection Facilities

Study.

Interconnection Requests included in a Group Study related to a resource solicitation process are subject to study according to their Definitive Planning Phase Queue Position in the process. Interconnection Requests for projects that are not included in a Group Study related to a resource solicitation process are subject to study according to their Definitive Planning Phase Queue Position outside the process in accordance with the provision of the GIP, and such studies may not be delayed as a result of the resource solicitation process. An Interconnection Customer may request that its Interconnection Request be included in a Group Study related to a resource solicitation process without having to abandon the existing Definitive Planning Phase Queue Position for such Interconnection Request. Once the solicitor rejects a project in the resource solicitation process, the Interconnection Request associated with the rejected project loses the Definitive Planning Phase Queue Position it held as part of the resource solicitation process. An Interconnection Customer that participates in a Group Study related to a resource solicitation process may at any time for the same project submit a separate Interconnection Request that is not included in the Group Study, provided, however, that Interconnection Customer shall be responsible for all Interconnection Study costs associated with its non-solicitation-related Interconnection Request in addition to any costs associated with Interconnection Customer's bid into the resource solicitation. When the solicitor selects a project in the resource solicitation process, Interconnection Customer may no longer maintain more than one Definitive Planning Phase Queue Position for the selected project. Interconnection System Impact Studies performed as Group Studies shall be conducted in such a manner to ensure the efficient implementation of the applicable regional transmission expansion plan in light of the Transmission System's capabilities at the time of each study.

#### **4.3 Transferability of Queue Position.**

An Interconnection Customer or MHVDC Connection Customer may transfer either of

its queue positions to another entity only if such entity acquires the specific Generating Facility or MHVDC Transmission Line identified in the Interconnection Request and the Point of Interconnection or Point of Connection does not change.

#### **4.4 Modifications.**

Interconnection Customer or MHVDC Connection Customer shall submit to Transmission Provider modifications to any information provided in the Interconnection Request in the manner specified by the Generator Interconnection Business Practices Manual (BPM-015). Interconnection Customer or MHVDC Connection Customer shall retain its Queue Position if the modifications proposed by Interconnection Customer or MHVDC Connection Customer are in accordance with Sections 4.4.1 or 4.4.4. Notwithstanding any modifications to information provided in the Interconnection Request, the applicable timing requirements of Section 7.2 to return study agreements and obligation to provide study deposits will not change.

Notwithstanding the above, during the course and prior to the completion of the Interconnection Studies, Interconnection Customer or MHVDC Connection Customer, Transmission Owner or Transmission Provider may identify changes to the planned interconnection that may improve the costs and benefits (including reliability) of the interconnection, and the ability of the proposed change to accommodate the Interconnection Request. If the Interconnection Customer is requesting to share Interconnection Customer Interconnection Facilities as part of the proposed change, the Interconnection Customer shall submit a consent agreement that meets the requirements of Section 3.3.1.4 along with the identification of changes to the planned interconnection. To the extent the identified changes are acceptable to Transmission Provider, Transmission Owner and Interconnection Customer or MHVDC Connection Customer, such acceptance not to be unreasonably withheld; Transmission Provider shall modify the Point of Interconnection or Point of Connection and/or configuration in accordance with such changes and proceed with any required Interconnection Studies. Changes to the Point of Interconnection or Point of Connection requested by Interconnection Customer



or MHVDC Connection Customer during the Definitive Planning Phase, except as described in this paragraph, will result in the Interconnection Request having to be revalidated according to the procedures in Section 3.3.1, and a new Definitive Planning Phase Queue Position assigned in accordance with the procedures in Section 4.1.

**4.4.1** During the Definitive Planning Phase and prior to the issuance of draft GIA, the modifications permitted shall include: (a) a change in the technical parameters associated with the Generating Facility or MHVDC Connection Customer technology other than a Permissible Technological Advancement; (b) a change to the Point of Interconnection or Point of Connection permitted under Section 4.4; and (c) a Permissible Technological Advancement for the Generating Facility or MHVDC Connection Customer. For such permitted modification proposed by Interconnection Customer or MHVDC Connection Customer pursuant to 4.4.1(a) or 4.4.1(b), Interconnection Customer or MHVDC Connection Customer shall submit a detailed analysis demonstrating why they believe the change is not a Material Modification. Transmission Provider must review such analysis and will determine, in its discretion, if the proposed modification is a Material Modification. In the absence of such analysis, the modification shall be deemed a Material Modification. Section 4.4.1.1 specifies a separate technological change procedure including the requisite information and process that will be followed to assess whether the Interconnection Customer's proposed technological advancement under Section 4.4.1(c) is a Material Modification. Section 1 contains a definition of Permissible Technological Advancement.

**4.4.1.1 Technological Change Procedure.**

For permitted modification proposed by Interconnection Customer or MHVDC Connection Customer, Interconnection Customer or MHVDC Connection Customer shall submit a technological advancement request demonstrating that the proposed change is a Permissible Technological Advancement or submitting a

detailed analysis to demonstrate that the proposed change is not a Material Modification. Such request shall include a description of the proposed change together with updated modeling data (power flow and stability), updated technical data as outlined in Attachment A of Appendix 1 of this GIP and a study deposit of \$10,000.00. The detailed analysis to demonstrate that the proposed change is not a Material Modification shall include steady-state (thermal/voltage), reactive power, short circuit/fault duty, and stability analyses unless the Transmission Provider deems one or more of these not necessary based on the nature of the change requested. The following criteria will be used to determine whether the proposed change is a Material Modification:

- a. Any change in expected output of the Generating Facility that is higher than what was studied in the interconnection process unless a control equipment is employed to limit the injection at the POI to the level of Interconnection Service originally requested;
- b. An increase in short circuit current that degrades transmission system reliability;
- c. Angular stability performance and dynamic response that degrades transmission system reliability;
- d. Violation of steady-state thermal or voltage limits caused by the planned change utilizing the same criteria consistent with the Interconnection System Impact Study.

Within 30 calendar days of receipt of a technological advancement request containing the information and security deposit required by Section 4.4.1.1, the Transmission Provider shall review such request and supporting documentation to determine if the proposed change is a Permissible Technological Advancement or otherwise not a Material Modification and communicate the results together with a written explanation to the Interconnection Customer of the Transmission

Provider's determination. In the event that the Transmission Provider determines that the proposed change is a Material Modification, the Interconnection Customer or MHVDC Connection Customer shall have the option of: (i) withdrawing such technological advancement request and retaining its current queue position; or (ii) resubmitting its proposed Generating Facility as a new Interconnection Request.

- 4.4.2** After entering the Definitive Planning Phase as defined in Section 7.2, any modifications to the type of Interconnection Service selected by Interconnection Customer in the Interconnection Request, other than a change from NR Interconnection Service to ER Interconnection Service pursuant to Section 3.2 of this GIP, shall be deemed a Material Modification.
- 4.4.3** After entering the Definitive Planning Phase as defined in Section 7.2, any modification to the size of the Interconnection Request, other than as allowed in Section 4.4.5, Section 7.3.1.4, or Section 7.3.2.4 of this GIP, shall be deemed a Material Modification.
- 4.4.4** After entering the Definitive Planning Phase as defined in Section 7.2, any extension by Interconnection Customer or MHVDC Connection Customer to the original In-Service Date or Commercial Operation Date of the Generating Facility or MHVDC Transmission Line in the original Interconnection Request shall be deemed a Material Modification except that the Transmission Provider will not unreasonably withhold approval of an Interconnection Customer's or MHVDC Connection Customer's proposed change in the original In-Service Date or Commercial Operation Date of the Generating Facility or MHVDC Transmission Line if that change is the result of either (a) a change in milestones by another party to the GIA or TCA, (b) a change in a higher queued Interconnection Request, (c) delays in the completion of the Definitive Planning Phase Studies, or (d) Interconnection Customer demonstrates that engineering, permitting and

construction of the Generating Facility will take longer than the process window for the Transmission Provider's Definitive Planning Phase period. Where such exceptions apply, extensions to the Commercial Operation Date or In-Service Date shall not exceed three years beyond the original Commercial Operation Date or In-Service Date in the Interconnection Request. A change to either of these dates that exceeds three years from the date in the original Interconnection Request is a Material Modification. At the completion of the Definitive Planning Phase, the specified Commercial Operation Date and In-Service Date shall be set forth in Appendix B of a GIA. Consistent with Article 2.3.1 of the GIA, once that GIA is executed or filed unexecuted, if the Generating Facility fails to reach Commercial Operation by the specified Commercial Operation Date set forth in the GIA, such specified Commercial Operation Date as set forth in the GIA may be extended by Interconnection Customer for a period up to three (3) consecutive years, after which Transmission Provider shall terminate the GIA if the Generating Facility has still failed to reach Commercial Operation. Notwithstanding the foregoing, in the limited circumstance that Transmission Owner Interconnection Facilities, Network Upgrades, or System Protection Facilities necessary to enable Trial Operation of a Generating Facility has an in-service date that is farther out than the Commercial Operation Date permitted under this Section 4.4.4 or, has an in-service date that does not allow for a one-hundred eighty (180) Calendar Day Trial Operation period, Transmission Provider shall only terminate the GIA for failure to achieve Commercial Operation by a Commercial Operation Date one-hundred eighty (180) Calendar Days after the in-service date of the Transmission Owner Interconnection Facilities, Network Upgrades, or System Protection Facilities necessary for Trial Operation.

#### **4.4.4.1 Transmission Owner In-Service Date extension.**

Prior to end of GIA negotiation and in the limited circumstance that a Transmission Owner determines it cannot complete Transmission Owner

Interconnection Facilities, Network Upgrades, or System Protection Facilities specified in the GIA using Reasonable Efforts by the In-Service Date permitted under this Section 4.4.4, the specified In-Service Date may be extended at the Transmission Owner's request for a period up to two (2) consecutive years and specified in the GIA. This provision does not alter Interconnection Customer's Commercial Operation Date requirements of this Section 4.4.4 or other provisions set forth in Appendix 6 of these GIP regarding Commercial Operation Date or In-Service Date. The Interconnection Customer is expected to construct facilities in parallel with the Transmission Owner's construction activities.

- 4.4.5** After entering the Definitive Planning Phase, any modification to the fuel source designated in the Interconnection Request, other than a modification to reduce the number of fuel source(s) of an Interconnection Request with two or more fuel sources before the kick-off of the Definitive Planning Phase I, shall be deemed a Material Modification.

## **SECTION 5. PROCEDURES FOR INTERCONNECTION REQUESTS SUBMITTED PRIOR TO EFFECTIVE DATE OF GENERATOR INTERCONNECTION PROCEDURES.**

### **5.1 Queue Position for Pending Requests.**

- 5.1.1** All Interconnection Requests that have entered a Definitive Planning Phase and the Definitive Planning Phase System Impact Study has been completed prior to January 4, 2017 will complete the Definitive Planning Phase pursuant to the approved GIP in effect on January 3, 2017. The August 2015 Definitive Planning Phase cycle shall be completed pursuant to the approved GIP in effect on January 3, 2017.

- 5.1.2** All Interconnection Requests that have entered a Definitive Planning Phase and the System Impact Study has not been started, or started and not completed, as of January 4, 2017 will be required to conform to Section 7 of this GIP excluding Section 7.2 “Eligibility for the Definitive Planning Phase” and the Site Control provisions found in Section 7.3.2.4 so long as the Interconnection Customer has previously complied with the then existing Section 8.2 “Eligibility for the Definitive Planning Phase.” All study deposits will be applied to studies performed under this transition plan and M2 milestone amounts previously paid will satisfy the M2 milestone requirement of Section 7.2. These projects will then follow all other sections of these Generator Interconnection Procedures in effect as of January 4, 2017.
- 5.1.3** All Interconnection Requests that have been received but have not had an M2 milestone calculated as of January 4, 2017, and have not met the requirements of Section 5.1.4, will be required to conform to Section 7 of these GIPs and will then follow all other sections of these Generator Interconnection Procedures in effect as of January 4, 2017.
- 5.1.4** All Interconnection Requests that are in the System Planning and Analysis Phase of the GIPs in effect prior to January 4, 2017 may pay their M2 milestone payment prior to January 4, 2017 and shall be treated pursuant to section 5.1.2. Interconnection Requests that are in the System Planning and Analysis Phase prior to the effective date of these GIPs that have not paid an M2 milestone payment prior to January 4, 2017 shall be treated pursuant to section 5.1.3. Interconnection Requests that are in the System Planning and Analysis Phase may remain in the System Planning and Analysis Phase until 45 Calendar Days prior to the start of the first cycle under these GIPs which begins August 1, 2017. MISO shall deem withdrawn any Interconnection Requests that are in the System Planning and Analysis Phase that have not made their M2 milestone payment at

least 45 Calendar Days prior to the start of the first cycle under these GIPs.

Notwithstanding the foregoing, any request for HVDC facilities listed as being in the System Planning and Analysis Phase as of June 16, 2017 shall be deemed transferred into the Pre-Queue Phase. Furthermore, any MHVDC projects in the Pre-Queue Phase as of the effective date of the MHCP shall be deemed transferred to the MHCP, as set forth in Section 4 of the MHCP.

## **5.2 Transition Period.**

An Interconnection Customer of a new transmission owning member of Transmission Provider shall transition to the revised GIP within a reasonable period of time not to exceed ninety (90) Calendar Days from the date when this GIP becomes applicable to that transmission owning member.

## **5.3 New Transmission Provider.**

If Transmission Provider transfers control of its Transmission System to a successor Transmission Provider during the period when an Interconnection Request is pending, the original Transmission Provider shall transfer to the successor Transmission Provider any amount of the deposit or payment with interest thereon that exceeds the cost that it incurred to evaluate the request for interconnection. Any difference between such net amount and the deposit or payment required by the GIP shall be paid by or refunded to Interconnection Customer, as appropriate. The original Transmission Provider shall coordinate with the successor Transmission Provider to complete any Interconnection Study, as appropriate, that the original Transmission Provider has begun but has not completed. If Transmission Provider has tendered a draft GIA to Interconnection Customer but Interconnection Customer has not either executed the GIA or requested the filing of an unexecuted GIA with FERC, unless otherwise provided, Interconnection Customer must complete negotiations with the successor Transmission Provider.

## **5.4 Transition to Revised Scope of DPP Phase I Studies.**

With the exception of this provision, the Tariff revisions accepted in Docket Nos. ER18-

2049-000 and -001 shall not apply to any queue cycle(s) for which the Definitive Planning Phase Preliminary System Impact Study has started prior to September 19, 2018.

**5.5 Transitional Notice Requirements for Generating Facility Replacement.**

All requests for Replacement Generating Facility that are submitted to the Transmission Provider within 365 Calendar Days after May 16, 2019 shall have a date of cessation of operation for the Existing Generating Facility that is not earlier than May 16, 2021.

**5.6 Transition to Revised Milestone Requirements Accepted in Docket No. ER20-41.**

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase was prior to April 29, 2019 shall be required to adhere to milestone requirements in GIP in effect prior to December 4, 2019.

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase was on April 29, 2019 shall be required to adhere to the revised milestone requirements accepted in Docket No. ER20-41, but shall not be subject to the M2 refund provisions in Section 7.6.2.1 of this GIP. All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase was on April 29, 2019 shall be subject to M2 refund provisions in effect prior to December 4, 2019.

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is after April 29, 2019 shall be required to adhere to the revised milestone requirements accepted in Docket No. ER20-41.

**5.7 Transition to Revised Site Control Requirements Accepted in Docket No. ER20-41.**

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase was prior to April 29, 2019 shall be required to adhere to Site Control



requirements in GIP in effect prior to December 4, 2019.

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase was on April 29, 2019 shall be required to provide proof of Site Control for the Generation Facility by the end of Interconnection Customer Decision Point II in accordance with the timing requirements established in Section 7.2.2.1. Such Interconnection Requests shall not be required to provide proof of Site Control for the Generating Facility ninety (90) Calendar Days prior to the start of DPP Phase I in accordance with the timing requirements established in Section 7.2.1. For such requests, the proof of Site Control for all applicable Interconnection Customer's Interconnection Facilities, and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), the Transmission Owner's Interconnection Facilities and Network Upgrades at the POI shall be due in accordance with the terms of Sections 7.2.2.1 and 7.2.2.2.

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is after April 29, 2019 will be subject to the Site Control requirements as set forth in Section 7.2.

## **5.8 Transition to Self-Fund Deadline Accepted in Docket No. ER20-2632.**

For all Network Upgrades and System Protection Facilities that were identified in a Revised System Impact Study that completed prior to November 5, 2020 and for which the Final System Impact Study was not completed as of November 5, 2020, the Transmission Owner shall make an election as to whether the Transmission Owner intends to self-fund each specific Network Upgrade and System Protection Facility identified in the Revised System Impact Study. Transmission Owner shall make its election prior to the completion of the Final System Impact Study.

For all Network Upgrades and System Protection Facilities that were identified in a Final

System Impact Study that completed prior to November 5, 2020 and for which the negotiation period for the GIA was not completed as of November 5, 2020, the Transmission Owner may make an election as to whether the Transmission Owner intends to self-fund each specific Network Upgrade and System Protection Facility prior to the completion of the GIA negotiation period.

**5.9 Transition to revised DPP schedule in Docket No. ER22-661.**

Interconnection Requests for which Transmission Provider started the DPP Phase III Final System Impact Study before March 15, 2022 will be subject to the Tariff requirements in effect prior to March 15, 2022. Interconnection Requests for which the DPP Phase III Final System Impact Study has not started as of March 15, 2022 will be subject to the revised Tariff accepted in Docket No. ER22-661.

**5.10 Transition to DPP revisions in Docket No. ER24-\_\_\_\_.**

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is on or after January 22, 2024 will be subject to the revised Tariff requirements accepted in Docket Nos. ER24-\_\_\_\_ and ER24-\_\_\_\_. All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is prior to January 22, 2024 will not be subject to the revised Tariff requirements accepted in Docket Nos. ER24-\_\_\_\_ and ER24-\_\_\_\_.

**5.11 Transition to JTIQ Process.**

Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is after the date that the Transmission Provider and SPP's Boards have approved a JTIQ Portfolio shall be subject to the JTIQ process set forth in Section 9.4.2 of Rate Schedule 6 (MISO-SPP JOA) and the JTIQ provisions of these GIP.

**5.12 Transition to DPP revisions in Docket No. ER25-\_\_\_\_.**

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is on or after January 31, 2025, will be subject to the revised Tariff requirements accepted in Docket No. ER25-\_\_\_\_. All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is prior to January 31, 2025, will not be subject to the revised Tariff requirements accepted in Docket No. ER25-\_\_\_\_.

### **5.13 Transition to ERAS Process.**

All requests for the Expedited Resource Addition Study that are submitted to the Transmission Provider after August 6, 2025 will be subject to the revised Tariff requirements accepted in Docket No. ER25-\_\_\_\_.

## **SECTION 6. PRE-QUEUE PHASE.**

### **6.1 Pre-Queue Customer Education**

Transmission Provider will be available for consultation with Interconnection Customer to discuss potential Interconnection Requests for Generating Facilities or study and processing of HVDC facilities. Such discussions may include, but are not limited to: (i) general facility loadings; (ii) general instability issues; (iii) general short circuit issues; (iv) general voltage issues including voltage and frequency ride-through capabilities for the Generating Facility; (v) general power quality issues including voltage flicker, harmonics; (vi) general reliability issues as may be reasonably required to accomplish the purpose of the meeting; (vii) estimated timing of Interconnection Request proceeding to the Definitive Planning Phase; (viii) estimated in-service date for the request; and (ix) any process related questions.

**6.2 Interim Treatment of HVDC Facilities in Pre-Queue Phase:** All requests for HVDC facilities deemed transferred into the Pre-Queue Phase pursuant to Section 5.1.4 of this GIP or which otherwise are permitted to enter the Pre-Queue Phase shall not be eligible to proceed to the Definitive Planning Phase until such time as additional procedures for processing such facilities are implemented.

**6.3 Small Generating Facility Pre-Application Report.**

**6.3.1** In addition to the information described in section 6.1, which may be provided in response to an informal request, an Interconnection Customer proposing to interconnect its Small Generating Facility may submit a formal written request form along with a non-refundable fee of \$300 for a pre-application report on a proposed project at a specific site. The Transmission Provider shall provide the pre-application data described in section 6.3.2 to the Interconnection Customer within twenty (20) Business Days of receipt of the completed request form and payment of the \$300 fee. Should the Transmission Provider notify the Interconnection Customer that more than twenty (20) Business Days are necessary to provide the pre-application data described in section 6.3.2 below because the information is not readily available to the Transmission Provider, the Interconnection Customer shall notify the Transmission Provider that it desires more complete information and waives the twenty (20) Business Day timeline. The pre-application report produced by the Transmission Provider is non-binding, does not confer any rights, and the Interconnection Customer must still successfully apply to interconnect to the Transmission Provider's system. The written pre-application report request form shall include the information in sections 6.3.1.1 through 6.3.1.8 below to clearly and sufficiently identify the location of the proposed Point of Interconnection.

- 6.3.1.1** Project contact information, including name, address, phone number, and email address.
  - 6.3.1.2** Project location (street address with nearby cross streets and town)
  - 6.3.1.3** Meter number, pole number, or other equivalent information identifying proposed Point of Interconnection, if available.
  - 6.3.1.4** Generator Type (e.g., solar, wind, combined heat and power, etc.)
  - 6.3.1.5** Size (alternating current kW)
  - 6.3.1.6** Single or three phase generator configuration
  - 6.3.1.7** Stand-alone generator (no onsite load, not including station service – Yes or No?)
  - 6.3.1.8** Is new service requested? Yes or No? If there is existing service, include the customer account number, site minimum and maximum current or proposed electric loads in kW (if available) and specify if the load is expected to change.
- 6.3.2** Using the information provided in the pre-application report request form in section 6.3.1, the Transmission Provider will identify the substation/area bus, bank or circuit likely to serve the proposed Point of Interconnection. This selection by the Transmission Provider does not necessarily indicate, after application of the screens and/or study, that this would be the circuit the project ultimately connects to. The Interconnection Customer must request additional pre-application reports

if information about multiple Points of Interconnection is requested.

Subject to section 6.3.3, the pre-application report will include the following information:

- 6.3.2.1** Total capacity (in MW) of substation/area bus, bank or circuit based on normal or operating ratings likely to serve the proposed Point of Interconnection.
- 6.3.2.2** Existing aggregate generation capacity (in MW) interconnected to a substation/area bus, bank or circuit (i.e., amount of generation online) likely to serve the proposed Point of Interconnection.
- 6.3.2.3** Aggregate queued generation capacity (in MW) for a substation/area bus, bank or circuit (i.e., amount of generation in the queue) likely to serve the proposed Point of Interconnection.
- 6.3.2.4** Available capacity (in MW) of substation/area bus or bank and circuit likely to serve the proposed Point of Interconnection (i.e., total capacity less the sum of existing aggregate generation capacity and aggregate queued generation capacity).
- 6.3.2.5** Substation nominal distribution voltage and/or transmission nominal voltage if applicable.
- 6.3.2.6** Nominal distribution circuit voltage at the proposed Point of Interconnection.
- 6.3.2.7** Approximate circuit distance between the proposed Point of Interconnection and the substation.

**6.3.2.8** Relevant line section(s) actual or estimated peak load and minimum load data, including daytime minimum load as described in section 14.4.4.1.1 below and absolute minimum load, when available.

**6.3.2.9** Number and rating of protective devices and number and type (standard, bi-directional) of voltage regulating devices between the proposed Point of Interconnection and the substation/area. Identify whether the substation has a load tap changer.

**6.3.2.10** Number of phases available at the proposed Point of Interconnection. If a single phase, distance from the three-phase circuit.

**6.3.2.11** Limiting conductor ratings from the proposed Point of Interconnection to the distribution substation.

**6.3.2.12** Whether the Point of Interconnection is located on a spot network, grid network, or radial supply.

**6.3.2.13** Based on the proposed Point of Interconnection, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks.

**6.3.3** The pre-application report need only include existing data. A pre-application report request does not obligate the Transmission Provider to conduct a study or other analysis of the proposed generator in the event that data is not readily available. If the Transmission Provider cannot complete all or some of a pre-application report due to lack of available

data, the Transmission Provider shall provide the Interconnection Customer with a pre-application report that includes the data that is available. The provision of information on “available capacity” pursuant to section 6.3.2.4 does not imply that an interconnection up to this level may be completed without impacts since there are many variables studied as part of the interconnection review process, and data provided in the pre-application report may become outdated at the time of the submission of the complete Interconnection Request. Notwithstanding any of the provisions of this section, the Transmission Provider shall, in good faith, include data in the pre-application report that represents the best available information at the time of reporting.

## **SECTION 7. DEFINITIVE PLANNING PHASE.**

### **7.1 Purpose of the Definitive Planning Phase.**

The Definitive Planning Phase is designed to identify Network Upgrades that will reliably and efficiently integrate the proposed generation, including through Injection Rights requested by MHVDC Connection Customer, into the Transmission Provider’s Transmission System. The Definitive Planning Phase will be composed of three distinct phases in which Interconnection System Impact Studies and Interconnection Facilities Studies will be performed.

#### **7.1.1 Screening Analysis Prior to Definitive Planning Phase I.**

Transmission Provider will perform an indicative non-binding screening analysis to identify potential thermal and voltage constraints and publish the results of that analysis for Interconnection Customers and MHVDC Connection Customers entering the Definitive Planning Phase at least fifteen (15) Calendar Days prior to the kick-off of the Definitive Planning Phase I. The Transmission Provider shall indicate with this screening analysis whether Interconnection Requests in the applicable DPP study



group are expected to be included in a JTIQ Participation Group based on available information. If the Interconnection Customer or MHVDC Connection Customer decides to withdraw its Interconnection Request before the start of the Definitive Planning Phase I, then the Transmission Provider will refund to Interconnection Customer or the MHVDC Connection Customer 100% of Definitive Planning Phase entry milestone (M2) and any remaining study deposits pursuant to Section 7.6.

## **7.2 Eligibility for the Definitive Planning Phase.**

The Interconnection Request shall enter the Definitive Planning Phase upon the Transmission Provider accepting the Interconnection Request as valid pursuant to Section 3.3.3 of this GIP after the Interconnection Customer or MHVDC Connection Customer has met the requirements of Section 3.3.1. The Definitive Planning Phase will start on a periodic basis, where an Interconnection Customer or MHVDC Connection Customer may elect to enter the next scheduled Definitive Planning Phase.

### **7.2.1 Requirements for Demonstrating Site Control for Generating Facility and Interconnection Facilities.**

Except as otherwise noted in Section 5.7, at the time of the submission of an Interconnection Request, the Interconnection Customer shall submit the following to the Transmission Provider:

- (i) Proof of Site Control for the Generating Facility demonstrating that the Interconnection Customer has obtained a right to develop the site, and that such Site Control:
  - (a) is exclusive to the specific project referenced in the Interconnection Request and the site meets the total resource-specific acreage requirements established in the Generator Interconnection Business Practices Manual; or

- (b) either is not exclusive to the specific project or includes less acreage than the standard resource-specific acreage requirements established in the Generator Interconnection Business Practice but is nonetheless sufficient to accommodate the final design of the Generating Facility, and account for any other projects that will utilize all or part of the same site; or
  - (c) A financial security in lieu of Site Control and supporting documentation demonstrating regulatory restrictions in accordance with Section 7.2.1.2 of this GIP.
- (ii) Reasonable evidence of Site Control, as described in the Generator Interconnection Business Practices Manual, for at least fifty percent (50%) of the mileage of the Generating Facility's Interconnection Facilities, or in lieu of Site Control for the Generating Facility's Interconnection Facilities, additional financial security in the amount of \$80,000 per line mile of right-of-way, on a straight line basis. Interconnection Customer's financial security provided in lieu of Site Control shall only be refunded once the Interconnection Customer satisfies the Site Control requirements or is withdrawn from the queue. The security can be provided in the form of cash or irrevocable letter of credit reasonably acceptable to Transmission Provider.  
[Reasonable evidence of Site Control for one hundred percent \(100%\) of the mileage of the Generating Facility's Interconnection Facilities for the Expedited Resource Addition Study request must be received at the time the application is submitted. The financial security in lieu of Site Control for the Generating Facility's Interconnection Facilities will not be accepted for an Expedited Resource Addition Study request.](#)

Any advancement or postponement to the DPP Phase I kickoff date made after the application deadline for such cycle shall not alter the deadline for submitting proof of Site Control.

Site Control for a Generating Facility and Interconnection Facility shall be demonstrated in accordance with Section 7.2.1.1 and Section 7.2.1.2 of this GIP.

All documentation establishing proof of Site Control under Sections 7.2.1 of this GIP shall be accompanied by a signed affidavit from an officer or from an agent of the Interconnection Customer stating either that the Interconnection Customer: (1) possesses Site Control in accordance with Section 7.2.1.1 of this GIP; or (2) is subject to regulatory restrictions that preclude Interconnection Customer from obtaining Site Control pursuant to Section 7.2.1.2 of this GIP. Such affidavit shall adhere to the form specified in Attachment E of Appendix 1 of Attachment X.

#### **7.2.1.1 Site Control Demonstration.**

In order to demonstrate Site Control for a Generating Facility and Interconnection Facilities, an Interconnection Customer must submit the following:

- (i) To demonstrate that an Interconnection Customer has Site Control in accordance with Section 7.2.1(i)(a) and 7.2.1(ii) of this GIP, a Geographic Information System (GIS) site plan map, data files, and documentation that shows the following information: (a) sufficient land to meet the acreage requirements set forth in the Generator Interconnection Business Practices Manual; (b) boundary for the proposed project indicating the boundaries of the Interconnection Customer's leasehold/ownership interests for the

site; and (c) the proposed location of each of the following: the Collector Substation, the Point of Interconnection, and the Interconnection Facilities based on the Point of Interconnection.

- (ii) To demonstrate that an Interconnection Customer has obtained Site Control in accordance in accordance with Section 7.2.1(i)(b) of this GIP, Interconnection Customer must submit a Geographic Information System (GIS) site plan map, data files, and documentation that meets the requirements specified in Section 7.2.1.1(i)(b) and (c) and show the following additional information:

- (a) Sufficient land to accommodate the proposed Generating Facility based on the location and approximate land utilization requirements of proposed electrical devices (*i.e.*, turbine, solar panel, battery storage, inverter), local spacing and setback requirements, and the proposed location of the feeder routes to the Collector Substation; and

- (b) In the event that Interconnection Customer elects to share a site with other projects in accordance with Section 7.2.1(i)(b) of this GIP, Interconnection Customer shall include with its Interconnection Request documentation demonstrating that the project referenced in the Interconnection Request is concurrently feasible with the development of any other projects that will share Site Control over all or a portion of the same site. Such proof of concurrent feasibility shall include:

- (1) an identification of any other Interconnection Requests or projects that will share all or a portion of the same site;

and

(2) identification of the proposed location and space utilization of all projects that will share the site together with any related technical information specified in the Generator Interconnection Business Practices Manual to enable the Transmission Provider to determine that development of the project referenced in the submitted Interconnection Request is not inconsistent with development of any of the other projects that will share all or a portion of the same site.

Any GIS site plan map, and data files submitted in accordance with this Section 7.2.1.1 must be consistent with the modeling data submitted with the Interconnection Request.

#### **7.2.1.2 Financial Security in lieu of Site Control.**

If the Interconnection Customer is unable to obtain Site Control for its proposed Generating Facility as a result of regulatory restrictions, the Interconnection Customer shall provide a cash deposit in lieu of Site Control. In order to demonstrate regulatory restrictions, Interconnection Customer must submit: (i) a signed affidavit in accordance with the terms of Section 7.2.1 of this GIP indicating that Site Control is unobtainable due to regulatory requirements; (ii) documentation sufficiently describing and explaining the source of and effects of such regulatory restrictions, including a description of any conditions that must be met in order to satisfy the regulatory restrictions and the anticipated time by which the Interconnection Customer expects to satisfy the regulatory restrictions. The financial security provided in lieu of Site Control, as cash deposit or irrevocable letter of credit reasonably acceptable to Transmission

Provider, shall be \$10,000 per MW of new Interconnection Service requested, and at least \$500,000 but no more than \$2,000,000. In the event that Interconnection Customer needs to submit a financial security in lieu of Site Control as a result of regulatory restrictions, Interconnection Customer must provide proof of Site Control as soon as the Interconnection Customer satisfies the regulatory requirements described in the Interconnection Customer's affidavit and supporting documents. Interconnection Customer's financial security made in lieu of Site Control shall only be refunded once the Interconnection Customer satisfies the Site Control requirements in accordance with the terms of Sections 7.2.1(i), 7.2.1.1, and 7.2.2 of the GIP or is withdrawn from the queue.

#### **7.2.1.3 Transmission Provider Review of Site Control Sufficiency.**

The Transmission Provider shall review the Site Control documentation submitted by Interconnection Customer and determine whether the Interconnection Customer has satisfied the applicable Site Control requirements specified in Section 7.2.1, and 7.2.1.1 or 7.2.1.2 of this GIP, as applicable. Transmission Provider shall evaluate the Site Control documentation using sound engineering judgement and in a non-discriminatory manner. In addition, Transmission Provider shall adhere to any guidelines for such analysis as may be included in the Generator Interconnection Business Practices Manual.

In the event that the Transmission Provider determines that the Interconnection Customer does not demonstrate sufficient Site Control, Transmission Provider shall, consistent with Section 7.2.3(ii) of this GIP, provide a written explanation, including the technical reasons for such determination, to Interconnection Customer no later than sixty (60) Calendar Days from the Site Control submission deadline. Any such deficiencies shall be processed as set forth in Section 7.2.3(ii) of this GIP.

## **7.2.2 Continued Site Control for Generating Facilities; Site Control for Interconnection Facilities and Network Upgrades.**

### **7.2.2.1 Timing Requirements.**

- (i) After the start and prior to the end of Interconnection Customer Decision Point II, Interconnection Customer shall submit proof that Interconnection Customer continues to maintain Site Control for the Generating Facility in accordance with terms in Section 7.2.1.1 of this GIP. Regarding Interconnection Customer's Interconnection Facilities, in addition to the requirements specified in Section 7.2.1.ii of this GIP, the Interconnection Customer will be required to demonstrate fifty (50%) site control for the site on which a switchyard will be located, if requested by the Transmission Provider.
- (ii) Prior to conclusion of the Interconnection Customer's GIA execution period, as defined in Section 11 of this GIP, or within 180 days of GIA Effective Date with an approved exception by the Transmission Provider, Interconnection Customer shall submit proof of the following: (a) continued Site Control for the Generating Facility in accordance with terms in Section 7.2.1.1 of this GIP; and (b) 100% Site Control for all Interconnection Customer's Interconnection Facilities (including demonstration of switchyard site control if requested by the Transmission Provider), and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), the Transmission Owner's Interconnection Facilities and Network Upgrades at the POI that the Interconnection Customer will develop.

- (iii) To the extent there is any change in the POI as a result of the Interconnection Facilities Study started in DPP Phase II and completed in DPP Phase III, the Transmission Provider shall provide the Interconnection Customer additional time to procure land rights for the new Interconnection Customer's Interconnection Facilities and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), the Transmission Owner's Interconnection Facilities and Network Upgrades at the POI that the Interconnection Customer will develop. The amount of additional time awarded for this purpose shall be determined on a case-by-case basis and in accordance with Section 4.4 of this GIP.
- (iv) After the Interconnection Customer timely satisfies each of the requirements of this Section 7.2.2.1 and execution of the GIA, any changes made to the site layouts and interconnection facility routes shall not be construed as a failure to satisfy the requirements of this Section 7.2.2.1. In the event that the Interconnection Customer makes any modifications to the design of the site layouts or Interconnection Facility routes after execution of this GIA, Interconnection Customer shall: (1) immediately notify the Parties of such changes; and (2) provide to Transmission Provider evidence of continued Site Control for land sufficient to accommodate the changes in site layouts and/or Interconnection Facility routes in accordance with the terms of its GIA.

**7.2.2.2 Content Requirements -- Demonstrating Site Control for Applicable Interconnection Facilities and Network Upgrades.**

In order to demonstrate Site Control for the Interconnection Customer's



Interconnection Facilities and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), the Transmission Owner's Interconnection Facilities and Network Upgrades at the POI, Interconnection Customer shall submit a site plan map by the deadline specified in Section 7.2.2.1 of this GIP. Such site plan map shall demonstrate land that is sufficient to accommodate 50% of the total land acreage required for the Interconnection Customer's Interconnection Facilities for the proposed Generating Facility (including the total linear miles for the associated lead line required to electrically interconnect the Generating Facility to the Transmission System) and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), 50% of the total land acreage required for the Transmission Owner's Interconnection Facilities and the Network Upgrades at the POI for the proposed Generating Facility.

The Site Plan submitted in accordance with Section 7.2.2 of this GIP shall identify the specific locations within the site for which Site Control is achieved, and those locations for which Site Control is not yet achieved.

To the extent that the Interconnection Customer intends to locate its Interconnection Facilities in a public right of way, Interconnection Customer shall also submit proof of submission of all requisite state and local permits.

Demonstration of Site Control pursuant to this Section 7.2.2.2 shall conform to any technical and documentation requirements as may be specified in the Generator Interconnection Business Practice Manual.

### **7.2.3. Effect of Deficiencies in Demonstration of Site Control**

In the event that the Interconnection Customer fails to timely satisfy any of the requirements of Sections 7.2.1 and 7.2.2 including subsections, as applicable, Interconnection Customer's Interconnection Request shall be deemed withdrawn as set forth below:

- (i) If Interconnection Customer fails to submit all of the documentation and information required by the applicable deadline, Interconnection Customer's Interconnection Request shall immediately be deemed withdrawn as of the date of such deadline without any cure period. Transmission Provider shall provide Interconnection Customer with notice of such withdrawal.
- (ii) If Interconnection Customer has timely submitted all information required by an applicable deadline but the Transmission Provider determines after review that such submission does not meet the requirements of this GIP, Interconnection Customer's Interconnection Request shall be deemed withdrawn in accordance with Section 3.6 of this GIP.

### **7.3 Duration of the Definitive Planning Phase**

The Definitive Planning Phase will include the following three phases:

- (i) Definitive Planning Phase I
- (ii) Definitive Planning Phase II
- (iii) Definitive Planning Phase III.

#### **7.3.1 Definitive Planning Phase I**

The Definitive Planning Phase I will start on a defined, periodic basis.

The Definitive Planning Phase I will include the following steps:

- (i) Attachment X, Appendix 10 Model Review (10 Business Days)
- (ii) Preliminary System Impact Study (65 Calendar Days)

(iii) Interconnection Customer Decision Point I (15 Business Days)

In addition, Interconnection Customer may request that the Transmission Provider initiate the Interconnection Facilities Study during Definitive Planning Phase I. If Interconnection Customer, Transmission Owner and Transmission Provider agree that such Interconnection Facilities Study should be performed during Definitive Planning Phase I, Transmission Provider shall begin the Interconnection Facilities Study during Definitive Planning Phase I.

**7.3.1.1 Purpose**

The Definitive Planning Phase I is designed to provide Interconnection Customers or MHVDC Connection Customers with a preliminary detailed analysis of their Interconnection Request's impact on the reliability of the Transmission System. Prior to the completion of the Preliminary System Impact Study, each impacted Transmission Owner shall make a non-binding indication as to whether the Transmission Owner intends to self-fund each specific Network Upgrade and System Protection Facility identified in the Preliminary System Impact Study. A Transmission Owner's non-binding self-fund election will be included in the Preliminary System Impact Study. Upon completion of the Preliminary System Impact Study, Transmission Provider will provide a detailed reliability analysis, pursuant to Section 7.3.1.5, to each Interconnection Customer or MHVDC Connection Customer that has an Interconnection Request in the Definitive Planning Phase I. Upon receipt of the Preliminary System Impact Study, the Interconnection Customer can either proceed to Definitive Planning Phase II or withdraw its Interconnection Request pursuant to Section 7.3.1.4 of this Attachment X.

**7.3.1.2 Model Building and Point of Interconnection Review**

Before starting the preliminary Interconnection System Impact Study, Transmission Provider will distribute the study models to Interconnection Customer or MHVDC Connection Customer and Transmission Owner. Interconnection Customer and Transmission Owner may recommend changes to the study model by providing a completed Interconnection Study Model Review Form, Appendix 10 to the GIP within ten (10) Business Days after receipt of the study models. Proposed changes will be incorporated in the study models after mutual agreement between Interconnection Customer or MHVDC Connection Customer, Transmission Owner and Transmission Provider, such agreement not to be unreasonably withheld. Transmission Provider shall thereafter begin the Preliminary System Impact Study. Failure of Interconnection Customer or MHVDC Connection Customer to provide the completed Interconnection Study Model Review Form within ten (10) Business Days will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP.

#### **7.3.1.3 Scope of the Preliminary System Impact Study**

The Preliminary System Impact Study shall evaluate the impact of the proposed Interconnection Request(s) in the Definitive Planning Phase I on the reliability and safety of the Transmission System. The Preliminary System Impact Study will consider the Base Case as well as all generating and MHVDC facilities (and with respect to subpart iv below, any identified Network Upgrades, System Protection Facilities, Distribution Upgrades, Generator Upgrades, Common Use Upgrades, Shared Network Upgrades, or, if such upgrades have been determined, upgrades on Affected Systems, associated with such higher queued Interconnection Requests) that, on the date the Preliminary System Impact Study is commenced: (i) are interconnected to the Transmission System or Distribution System; (ii) are interconnected or queued to interconnect to

Affected Systems and may have an impact on the Interconnection Request; (iii) have Interconnection Request is part of the same group; and (iv) have executed a GIA or a pending unexecuted GIA on file at FERC or a TCA pursuant to which Transmission Provider has granted Injection Rights.

The Preliminary System Impact Study will consist of a power flow analysis. If Transmission Provider determines in accordance with Good Utility Practice that any voltage stability analysis is needed, the Preliminary System Impact Study may include voltage stability analysis. The Preliminary System Impact Study will also include analysis needed to determine the Generating Facility's reactive power capability required to maintain the Transmission Owner's voltage schedule and power factor criteria at the Point of Interconnection.

Determination of the full scope of the Preliminary System Impact Study in the Definitive Planning Phase I will be on a non-discriminatory basis per the methodologies listed in the Generator Interconnection Business Practices Manual. Transmission Provider shall use Reasonable Efforts to complete the Preliminary System Impact Study within sixty-five (65) Calendar Days.

The Preliminary System Impact Study will state the assumptions upon which it is based, state the results of the analyses, and provide the requirements or potential impediments to providing the requested Interconnection Service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. The Preliminary System Impact Study will provide a preliminary list of facilities (including Interconnection Facilities, Connection Facilities, Network Upgrades,

Generator Upgrades, Common Use Upgrades, and Shared Network Upgrades) that are required as a result of the Interconnection Request and a preliminary non-binding good faith estimate of cost and a non-binding good faith estimated time to construct. For purposes of determining necessary interconnection facilities and network upgrades, the Preliminary System Impact Study shall consider the level of Interconnection Service requested by the Interconnection Customer, unless otherwise required to study the full Generating Facility Capacity due to safety or reliability concerns.

At the request of Interconnection Customer or MHVDC Connection Customer, or at any time Transmission Provider determines that it will not meet the required time frame for completing the Preliminary System Impact Study, Transmission Provider shall notify Interconnection Customer or MHVDC Connection Customer regarding the following:

- (i) Schedule status of the Preliminary System Impact Study
- (ii) Estimated completion date and an explanation of the reasons why additional time is required.
- (iii) Revised cost estimate of study deposits with an explanation of the reasons why cost estimates were revised. Interconnection Customer or MHVDC Connection Customer shall then provide within thirty (30) Calendar Days of Transmission Provider's notice, an additional deposit equal to the difference between the initial and revised cost estimate. Failure of Interconnection Customer or MHVDC Connection Customer to provide this additional deposit will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP.

#### **7.3.1.4 Interconnection Customer Decision Point I**

All Interconnection Customers or MHVDC Connection Customers with

Interconnection Requests in the Definitive Planning Phase I will pass through Interconnection Customer Decision Point I. The Interconnection Customer Decision Point I will last for fifteen (15) Business Days beginning with the receipt of the Preliminary System Impact Study analysis including estimated upgrades and costs, as applicable. Transmission Provider shall notify all Interconnection Customers or MHVDC Connection Customers at the beginning of Interconnection Customer Decision Point I that the Interconnection Customer or MHVDC Connection Customer shall have fifteen (15) Business Days to decide whether it wants to proceed to the Definitive Planning Phase II or withdraw its Interconnection Request. The Transmission Provider shall provide written notice to each Interconnection Customer in a Definitive Planning Phase Group Study [or ERAS](#) confirming whether they are included in a JTIQ Screening Group and whether its Interconnection Request has qualified for inclusion in a JTIQ Participation Group prior to the beginning of Interconnection Customer Decision Point I. If the Transmission Provider determines that such Interconnection Request will be included in a JTIQ Participation Group, the notification shall include an estimate of the per-MW Generator Charge for such Interconnection Requests based on the latest available data on JTIQ Upgrade cost, the Potential MW Total projected for such JTIQ Portfolio. During Interconnection Customer Decision Point I, an Interconnection Customer or MHVDC Connection Customer may waive its right to elect the option to build or may defer the decision to the deadlines specified in Sections 7.3.2.5 & 7.3.3.5; failure to provide a written response will be deemed to be a deferral. During Interconnection Customer Decision Point I, an Interconnection Customer or MHVDC Connection Customer may reduce the size of its Interconnection Request by as much as 100 percent through either (1) a decrease in plant size or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1)

accomplished by applying Transmission Provider-approved injection-limiting equipment. However, because NR Interconnection Service includes an equivalent amount of ER Interconnection Service, a reduction in NRIS level will not reduce the ERIS level unless a corresponding reduction in ERIS level is requested. The total amount of NRIS requested shall not exceed the amount of ERIS requested. The required Definitive Planning Phase II Milestone calculation shall be based on the DPP Phase I results. If the Interconnection Customer or MHVDC Connection Customer decides to withdraw its Interconnection Request during, or any time before, the end of Interconnection Customer Decision Point I, then the Transmission Provider will refund Interconnection Customer 40% of Definitive Planning Phase I milestone (M2) and any remaining study deposits pursuant to Section 7.6. Any withdrawal during the Definitive Planning Phase I, but prior to Interconnection Customer Decision Point I, will neither be processed nor deemed withdrawn until Interconnection Customer Decision Point I. If an Interconnection Customer included in the JTIQ Participation Group reduces the size of Interconnection Request, the Transmission Provider shall determine whether such Interconnection Request continues to meet the criteria for inclusion in the JTIQ Participation Group and inform such Interconnection Customer of this determination not later than the start of Decision Point II.

If the Interconnection Customer or MHVDC Connection Customer decides to proceed to the Definitive Planning Phase II, then it will be required to pay Definitive Planning Phase II milestone (M3), pursuant to Section 7.3.1.4.1, prior to the end of Interconnection Customer Decision Point I.

If the Transmission Provider does not receive written confirmation from Interconnection Customer or MHVDC Connection Customer on whether it



wants to proceed to the Definitive Planning Phase II or withdraw its Interconnection Request, during the Interconnection Customer Decision Point I, the Transmission Provider will deem the Interconnection Request as withdrawn without any cure period, provide written notice to Interconnection Customer or MHVDC Connection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal, and refund Interconnection Customer's Definitive Planning Phase I milestone (M2) less the amount of Automatic Withdrawal Penalty and any remaining study deposits pursuant to Section 3.6. If the Transmission Provider does not receive Definitive Planning Phase II (M3) milestone payment during the Interconnection Customer Decision Point I, the Transmission Provider shall provide written notice to Interconnection Customer or MHVDC Connection Customer of such failure. Upon receipt of such notice, the Interconnection Customer or MHVDC Connection Customer shall have three (3) Business Days to provide the Definitive Planning Phase II (M3) milestone payment after which period the Transmission Provider will deem the Interconnection Customer or MHVDC Connection Customers as withdrawn without any further cure period if the Definitive Planning Phase II (M3) milestone payment has not been received. After Interconnection Customer or MHVDC Connection Customer enters the Definitive Planning Phase II, the Definitive Planning Phase I (M2) milestone payment becomes 100% non-refundable, pursuant to Section 7.8 and Section 7.6.2.1.

#### **7.3.1.4.1 Definitive Planning Phase II Milestone (M3)**

##### **Calculation.**

The Definitive Planning Phase II milestone (M3) will be in the form of either cash or irrevocable letter of credit reasonably acceptable to Transmission Provider. Interconnection Customers and MHVDC Connection Customers may replace cash milestone

payments with a letter of credit and may replace letters of credit with cash. The Definitive Planning Phase II milestone (M3) will be the greater of twenty percent (20%) of the amount of Network Upgrades, excluding JTIQ Upgrades, identified in the Preliminary System Impact Study less the amount previously provided at M2 or \$1,000/MW.

### **7.3.2 Definitive Planning Phase II**

The Definitive Planning Phase II start the next day after the fifteen (15) Business Days Interconnection Customer Decision Point I window expires.

The Definitive Planning Phase II will include the following steps:

- (i) Model Review Period (6 Business Days)
- (ii) Revised System Impact Study (75 Calendar Days)
- (iii) Interconnection Customer Decision Point II (15 Business Days)

Transmission Owner shall also use Reasonable Efforts to complete the Interconnection Facilities Study within ninety (90) Calendar Days. The Interconnection Facilities Study may be initiated during Definitive Planning Phase I, in accordance with Section 7.3.1 of this GIP. To the extent the Interconnection Facilities Study is performed during Definitive Planning Phase II, such study shall be performed concurrently with tasks (i) – (iii).

#### **7.3.2.1 Purpose**

The Definitive Planning Phase II is designed to provide Interconnection Customers and MHVDC Connection Customers a revised and a detailed analysis of their Interconnection Request's impact on the reliability of the Transmission System after incorporating updated generation and MHVDC assumptions due to potential withdrawal of Interconnection Requests

during Definitive Planning Phase I. Except as otherwise provided in Section 5.8, prior to the completion of the Revised System Impact Study, each impacted Transmission Owner shall indicate whether the Transmission Owner intends to self-fund each specific Network Upgrade and System Protection Facility identified in the Revised System Impact Study. A Transmission Owner's self-fund election will be included in the Revised System Impact Study. Except as otherwise provided in Section 5.8, the Transmission Owner's failure to provide its indication prior to the completion of the Revised System Impact Study shall constitute a waiver of the Transmission Owner's option to elect to self-fund each Network Upgrade and System Protection Facility identified in the Revised System Impact Study. Upon completion of the Revised System Impact Study, Transmission Provider will provide a detailed reliability analysis, pursuant to Section 7.3.2.5, to each Interconnection Customer or MHVDC Connection Customer that has an Interconnection Request in the Definitive Planning Phase II. Upon receipt of the Revised System Impact Study, the Interconnection Customer or MHVDC Connection Customer can either proceed to Definitive Planning Phase III or withdraw its Interconnection Request pursuant to Section 7.3.2.4 of this Attachment X.

#### **7.3.2.2 Model Building**

Before starting the Revised System Impact Study, Transmission Provider will distribute the study models to Interconnection Customer or MHVDC Connection Customer and Transmission Owner. The Transmission Provider will update the study models built during Definitive Planning Phase I, pursuant to Section 7.3.1.2, by removing all Interconnection Requests that did not proceed to the Definitive Planning Phase II. The Transmission Provider will distribute the revised study models to the Transmission Owner and Interconnection Customer or MHVDC Connection Customer for final review. Any comments or corrections

from the Transmission Owner or Interconnection Customer or MHVDC Connection Customer to the revised study models must be submitted to the Transmission Provider within six (6) Business Days after receipt of the revised study models. Should the Transmission Owner or Interconnection Customer or MHVDC Connection Customer fail to provide feedback on the revised study models within six (6) Business Days, Transmission Provider will deem the models acceptable. Transmission Provider shall thereafter begin the Revised System Impact Study.

#### **7.3.2.3 Scope of the Interconnection System Impact Study**

The Revised System Impact Study shall provide an updated, detailed analysis of their Interconnection Request's impact on the reliability of the Transmission System after incorporating updated generation and MHVDC assumptions due to potential withdrawal of Interconnection Requests during Definitive Planning Phase I. The Revised System Impact Study shall follow the procedures as the Preliminary System Impact Study described in Definitive Planning Phase I Section 7.3.1.3, as well as include a short circuit analysis and stability analysis. Transmission Provider shall include in the Revised System Impact Study an analysis of the upgrades on Distribution System, if applicable, and Affected Systems. If Transmission Provider determines in accordance with Good Utility Practice that any such analyses are needed, any stability analysis performed in a Revised System Impact Study may include transient stability, large and small signal, sub-synchronous stability, dynamic voltage stability, mid- and long-term stability, voltage flicker analyses and excessive neutral current. Transmission Provider shall utilize existing studies to the extent practicable in performing the Revised System Impact Study. For purposes of determining necessary Interconnection Facilities Network Upgrades, and responsibility for JTIQ Upgrades, the Revised System Impact Study shall consider the level of Interconnection Service

requested by the Interconnection Customer, unless otherwise required to study the full Generating Facility Capacity due to safety or reliability concerns. Transmission Provider shall use Reasonable Efforts to complete the Revised System Impact Study within seventy-five (75) Calendar Days.

At the request of Interconnection Customer or MHVDC Connection Customer, or at any time Transmission Provider determines that it will not meet the required time frame for completing the Revised System Impact Study, Transmission Provider shall notify Interconnection Customer or MHVDC Connection Customer regarding the following:

- (i) Schedule status of the Revised System Impact Study.
- (ii) Estimated completion date and an explanation of the reasons why additional time is required.
- (iii) Revised cost estimate of study deposits with an explanation of the reasons why cost estimates were revised. Interconnection Customer or MHVDC Connection Customer shall then provide within thirty (30) Calendar Days of Transmission Provider's notice, an additional deposit equal to the difference between the initial and revised cost estimate. Failure of Interconnection Customer or MHVDC Connection Customer to provide this additional deposit will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP.

**7.3.2.3.1 Additional Analysis Applicable to Interconnection Requests in a JTIQ Screening Group.**

In addition to the analyses specified in Section 7.3.2.3 of this GIP, Interconnection Requests that: (1) are included in a JTIQ Screening Group ([including ERAS projects not otherwise subject to Transmission Provider's three-phase DPP](#)) and not located in the MISO South Region as such region is defined by as the Generator Interconnection Business Practices Manual (BPM-015), and (2) are

part of the JTIQ Participation Group and located in the MISO South Region: shall be subject to the following additional analysis.

**a. Expanded Scope Analysis:** The Transmission Provider shall analyze the potential impacts of Interconnection Request on SPP's transmission system that are i) located within five (5) substations for facilities with a nominal operating voltage under 200kV, two (2) substations for facilities with a nominal operating voltage between 200 and 300 kV, and one (1) substation for facilities with a nominal operating voltage greater than 300 kV, from any substation that is part of the Transmission System; and ii) have greater than or equal to ten percent (10%) distribution factor on one or more facilities that are part of SPP's transmission system. An Interconnection Request that qualifies for and is subject to this Expanded Scope Analysis shall not be required to undergo analysis by SPP of impacts to its transmission system beyond those identified in the Expanded Scope Analysis or the Supplemental Affected System Analysis as described in Section 7.3.2.3.1(b) of this GIP.

If the Transmission Provider's Expanded Scope Analysis identifies an Interconnection Request as having impacts to SPP's transmission system that meets or exceed the foregoing distribution factor thresholds, the applicable Interconnection Customer(s) shall enter into an appropriate agreement with SPP or the applicable transmission owner to address such impacts in accordance with SPP's rules and procedures.

**b. Supplemental Affected System Analysis:** If the Transmission Provider determines that the Potential MW

Total, including the current Group Study, exceeds the Target MW value for the applicable JTIQ Portfolio, SPP shall perform a study to determine if any Supplemental Upgrades are required to address impacts to its transmission system from one or more Interconnection Customers and provide the results of this analysis to the Transmission Provider prior to the beginning of Decision Point II. Calculation of the Potential MW Total and the Supplemental Affected System Analysis shall be performed in accordance with Section 9.4.2(e)(iii) of Rate Schedule 6 (MISO-SPP JOA).

If the Supplemental Affected System Analysis indicates that Supplemental Affected System Upgrades are required for an Interconnection Request, then:

(1) the applicable Interconnection Customer(s) shall enter into an appropriate agreement with SPP, or the applicable SPP transmission owner, to address such impacts in accordance with SPP's rules and procedures; and

(2) Transmission Provider shall compare the costs of such Supplemental Affected System Upgrades to the Threshold Charge in the manner described in Section 9.4.2.(e)(iii)(a)(ii)(a)-(c) of Rate Schedule 6 (MISO-SPP JOA).

(3) The Transmission Provider, in coordination with SPP, shall establish a cost criterion in dollars per megawatt (\$/MW) pursuant to Section 9.4.2.(e)(iii)(a)(ii)(a)-(c) of Rate Schedule 6 (MISO-SPP JOA). Where the costs assigned to an Interconnection Request for upgrades identified through the Supplemental Affected System Analysis, excluding

costs identified through the Expanded Scope Analysis, exceed the cost criterion, the Interconnection Request shall be exempt from charges for the JTIQ Upgrades. Otherwise, the Interconnection Request shall be obligated to pay a portion of the JTIQ Upgrade.

#### **7.3.2.4 Interconnection Customer Decision Point II**

All Interconnection Customers and MHVDC Connection Customers with Interconnection Requests in the Definitive Planning Phase II will pass through Interconnection Customer Decision Point II. The Interconnection Customer Decision Point II will last for fifteen (15) Business Days beginning with the receipt of the Revised System Impact Study analysis, including Expanded Scope Analysis where applicable, and Affected System analysis, including estimated upgrades and costs as applicable. Transmission Provider shall notify all Interconnection Customers and MHVDC Connection Customers at the beginning of Interconnection Customer Decision Point II that the Interconnection Customer or MHVDC Connection Customer shall have fifteen (15) Business Days to decide whether it wants to proceed to the Definitive Planning Phase III or withdraw its Interconnection Request. During Interconnection Customer Decision Point II, an Interconnection Customer or MHVDC Connection Customer may reduce the size of its Interconnection Request for ERIS by as much as an additional ten percent (10%) compared to what was studied in DPP Phase II, through either (1) a decrease in plant size or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1) accomplished by applying Transmission Provider-approved injection-limiting equipment. Additionally, an Interconnection Customer may request to reduce the amount of NRIS by as much as 100% independent of any requested reduction in ERIS. However, because NR Interconnection Service includes an equivalent



amount of ER Interconnection Service, a reduction in NRIS level will not reduce the ERIS level unless a corresponding reduction in ERIS level is requested. The total amount of NRIS requested shall not exceed the amount of ERIS requested. The required M4 milestone calculation shall be based on the DPP Phase II results. If an Interconnection Customer included in the JTIQ Participation Group reduces the size of Interconnection Request, the Transmission Provider shall determine whether such Interconnection Request continues to meet the criteria for inclusion in the JTIQ Participation Group and inform such Interconnection Customer of this determination through the Revised System Impact Study report.

If the Interconnection Customer or MHVDC Connection Customer decides to withdraw its Interconnection Request during, or any time before, the end of Interconnection Customer Decision Point II, then the Transmission Provider will refund Interconnection Customer's Definitive Planning Phase II milestone (M3) and any remaining study deposits pursuant to Section 7.8. Any withdrawal during the Definitive Planning Phase II, but prior to Interconnection Customer Decision Point II, will neither be processed nor deemed withdrawn until Interconnection Customer Decision Point II.

If the Interconnection Customer or MHVDC Connection Customer decides to proceed to the Definitive Planning Phase III, then it will be required to pay Definitive Planning Phase III milestone (M4), pursuant to Section 7.3.2.4.1, as well as provide evidence of continued Site Control for the proposed Generating Facility prior to the end of Interconnection Customer Decision Point II pursuant to Section 7.2.2.

If the Transmission Provider does not receive written confirmation from

Interconnection Customer or MHVDC Connection Customer on whether it wants to proceed to the Definitive Planning Phase III or withdraw its Interconnection Request, during the Interconnection Customer Decision Point II, the Transmission Provider will deem the Interconnection Request as withdrawn without any cure period, provide written notice to Interconnection Customer or MHVDC Connection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal, and refund Interconnection Customer's Definitive Planning Phase II milestone (M3) and any remaining study deposits pursuant to Section 7.6. If the Transmission Provider does not receive Definitive Planning Phase III (M4) milestone payment during the Interconnection Customer Decision Point II, the Transmission Provider shall provide written notice to Interconnection Customer or MHVDC Connection Customer of such failure. Upon receipt of such notice, the Interconnection Customer or MHVDC Connection Customer shall have three (3) Business Days to provide the Definitive Planning Phase III (M4) milestone payment after which period the Transmission Provider will deem the Interconnection Customer or MHVDC Connection Customers as withdrawn without any further cure period if the Definitive Planning Phase III milestone (M4) payment has not been received. After Interconnection Customer or MHVDC Connection Customer enters the Definitive Planning Phase III, the Definitive Planning Phase III (M4) milestone payment becomes 100% non-refundable, pursuant to Section 7.8.

**7.3.2.4.1 Definitive Planning Phase III Milestone (M4)  
Calculation.**

The Definitive Planning Phase III milestone (M4) will be in the form of either cash or irrevocable letter of credit reasonably acceptable to Transmission Provider. Interconnection Customers

and MHVDC Connection Customers may replace cash milestone payments with a letter of credit and may replace letters of credit with cash. The Definitive Planning Phase III milestone (M4) will be thirty percent (30%) of the amount of Network Upgrades identified in the Revised System Impact Study, not including costs associated with JTIQ Upgrades, less any payments made as M2 and M3, but in no event shall the M4 be less than zero dollars.

#### **7.3.2.4.2 True-down of Milestone Payments.**

Within ten (10) Business Days from the start of Definitive Planning Phase III, Transmission Provider shall notify the Interconnection Customer if the total posted M3 and M4 milestone payments (*i.e.*, the sum of the M3 and M4 payments) for the Interconnection Request exceed thirty percent (30%) of the total Network Upgrade cost assigned to such Interconnection Request in the Revised System Impact Study, excluding the JTIQ Generator Charge. Transmission Provider shall refund such excess amounts to the Interconnection Customer as soon as practicable.

#### **7.3.2.5 Scope of Interconnection Facilities Study.**

The first portion of the Interconnection Facilities Study focusing on the Interconnection Facilities or the Connection Facilities for the project will start no later than the first day of Definitive Planning Phase II in accordance with Section 7.3.2 of this GIP. This portion of the Interconnection Facilities Study will identify estimates for cost and the time required to construct the Interconnection Facilities or the Connection Facilities, including cost estimates that the Transmission Owner will impose if the Interconnection Customer elects to build (e.g. oversight or management costs). Within 10 Business Days of the Interconnection Customer's receipt of the draft Interconnection Facilities Study, unless the

Interconnection Customer has waived its option to build under Section 7.3.1.4, the Interconnection Customer shall either elect the option to build or waive the option to build. If the Interconnection Customer elects the option to build, at the same time it makes that election, it must also supply completed cost estimates for Exhibits A7 and A8 as described in Business Practices Manual 15 for the Interconnection Facilities and Stand-Alone Network Upgrades that it has elected to build. Failure to provide a written response or a failure to provide the required cost estimates will be deemed to be a waiver of the Interconnection Customer's option to build. Nothing in this Section shall be interpreted to prohibit an Interconnection Customer from, with Transmission Owner's consent, from waiving its option to build at a later time prior to GIA execution, but an Interconnection Customer is not entitled to reverse its waiver. Transmission Provider shall use Reasonable Efforts to complete this portion of the Interconnection Facilities Study within ninety (90) Calendar Days.

### **7.3.3 Definitive Planning Phase III**

The Definitive Planning Phase III will start the day after the expiration of the fifteen (15) Business Day Interconnection Customer Decision Point II.

The Definitive Planning Phase III will include the following steps:

- (i) Model Review (6 Business Days)
- (ii) Final System Impact Study (50 Calendar Days)
- (iii) Interconnection Facilities Study for Network Upgrades (90 Calendar Days)

#### **7.3.3.1 Purpose**

The Definitive Planning Phase III is designed to provide Interconnection Customers and MHVDC Connection Customers a final, detailed analysis of their Interconnection Request's impact on the reliability of the

Transmission System after incorporating updated generation and MHVDC assumptions due to potential withdrawal of Interconnection Requests during Definitive Planning Phase II. For each specific Network Upgrade and System Protection Facility that the Transmission Owner did not elect to self-fund as a part of the Revised System Impact Study, the Transmission Owner shall not be permitted to further revise its election after the completion of the Revised System Impact Study. For each specific Network Upgrade and System Protection Facility that the Transmission Owner elected to self-fund as a part of the Revised System Impact Study, each impacted Transmission Owner shall confirm or revise its self-fund election prior to the completion of the Final System Impact Study. In the event that a new Network Upgrade or System Protection Facility is identified in the Final System Impact Study that had not previously been identified in the Revised System Impact Study, each impacted Transmission Owner shall make a binding indication as to whether the Transmission Owner intends to self-fund the new Network Upgrade and System Protection Facility prior to the completion of the Final System Impact Study. A Transmission Owner's self-fund election will be included in the Final System Impact Study. Except as otherwise provided in Section 5.8, a Transmission Owner's failure to provide its self-fund election prior to the completion of the Final System Impact Study shall constitute a waiver of the Transmission Owner's option to self-fund each Network Upgrade and System Protection Facility identified in the Final System Impact Study. Upon completion of the Final System Impact Study, Transmission Provider will perform Facilities Study pursuant to Section 7.3.3.5. Upon completion of the Interconnection Facilities Study, Transmission Provider will tender a draft *pro forma* Generator Interconnection Agreement to the Interconnection Customer and Transmission Owner.

#### **7.3.3.2 Model Building**

Before starting the Final System Impact Study, Transmission Provider will distribute the study models to Interconnection Customer or MHVDC Connection Customer and Transmission Owner. The Transmission Provider will update the study models built during Definitive Planning Phase II, pursuant to Section 7.3.2.2, by removing all Interconnection Requests that did not proceed to the Definitive Planning Phase III. The Transmission Provider will distribute the revised study models to the Transmission Owner and Interconnection Customer or MHVDC Connection Customer for final review. Any comments or corrections from the Transmission Owner or Interconnection Customer or MHVDC Connection Customer to the revised study models must be submitted to the Transmission Provider within six (6) Business Days after receipt of the revised study models. Should the Transmission Owner or Interconnection Customer or MHVDC Connection Customer fail to provide feedback on the revised study models within six (6) Business Days, Transmission Provider will deem the models acceptable. Transmission Provider shall thereafter begin the Final System Impact Study.

#### **7.3.3.3 Scope of the Final System Impact Study**

The Final System Impact Study shall provide a final, detailed analysis of their Interconnection Request's impact on the reliability of the Transmission System after incorporating updated generation assumptions due to potential withdrawal of Interconnection Requests during Definitive Planning Phase II. The Final System Impact Study shall follow the procedures as the Revised System Impact Study described in Definitive Planning Phase II Section 7.3.2.3 and additional JTIQ analysis described in Section 7.3.2.3.1, where applicable. For purposes of determining necessary Interconnection Facilities and Network Upgrades, the Final System Impact Study shall consider the level of Interconnection Service

requested by the Interconnection Customer, unless otherwise required to study the full Generating Facility Capacity due to safety or reliability concerns. Transmission Provider shall utilize existing studies to the extent practicable in performing the Final System Impact Study.

The Final System Impact Study will start the day after the completion of the Model Review in the Definitive Planning Phase III. Transmission Provider shall use Reasonable Efforts to complete the Final System Impact Study within fifty (50) Calendar Days.

At the request of Interconnection Customer or MHVDC Connection Customer, or at any time Transmission Provider determines that it will not meet the required time frame for completing the Final System Impact Study, Transmission Provider shall notify Interconnection Customer or MHVDC Connection Customer regarding the following:

- (i) Schedule status of the Final System Impact Study.
- (ii) Estimated completion date and an explanation of the reasons why additional time is required.
- (iii) Revised cost estimate of study deposits with an explanation of the reasons why cost estimates were revised. Interconnection Customer or MHVDC Connection Customer shall then provide within thirty (30) Calendar Days of Transmission Provider's notice, an additional deposit equal to the difference between the initial and revised cost estimate. Failure of Interconnection Customer or MHVDC Connection Customer to provide this additional deposit will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP.

#### **7.3.3.4 Scope of Interconnection Facilities Study.**

Transmission Provider may begin the second portion of the

Interconnection Facilities Study for that Network Upgrade prior to the completion of the Final System Impact Study. The Interconnection Customer(s) responsible for a Network Upgrade may request that the second portion of the Interconnection Facilities Study begin after the completion of Interconnection Customer Decision Point II and prior to the completion of the Final System Impact Study. MISO shall start the second portion of the Interconnection Facilities Study no later than the day following the posting of the Final System Impact Study report. This phase will identify estimates for the cost and time required to build necessary Network Upgrades that are identified in the Final System Impact Study. Transmission Provider shall use Reasonable Efforts to complete this portion of the Interconnection Facilities Study within ninety (90) Calendar Days from the start date of the Interconnection Facilities Study.

The Interconnection Facilities Study, in its entirety, shall specify and estimate the cost of the required equipment, engineering, procurement and construction work needed to implement the Network Upgrades and Interconnection Facilities or Connection Facilities identified in the Final System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Interconnection Facilities or the Connection Facilities to the Transmission or Distribution System, as applicable, as well as that equipment, to the extent known and available in accordance with Section 3.5 of these GIP, required by Affected Systems to accommodate the interconnection of the Generating Facility or the MHVDC Transmission Line.

The Interconnection Facilities Study shall also identify the electrical switching configuration of the connection equipment, including, without limitation: the transformer, switchgear, meters, and other station equipment; the nature and estimated cost of any Transmission Owner's



Interconnection Facilities or Connection Facilities and Network Upgrades, Distribution Upgrades, Generator Upgrades, Common Use Upgrades, and to the extent known and available in accordance with Section 3.5 of the GIP, upgrades on Affected Systems necessary to accomplish the interconnection; and an estimate of the time required to complete the construction and installation of such facilities. The Interconnection Facilities Study will also identify any potential control equipment for requests for Interconnection Service that are lower than the Generating Facility Capacity.

#### **7.3.3.5 Interconnection Facilities Study Procedures.**

Transmission Provider shall coordinate the Interconnection Facilities Study with any Affected System pursuant to Section 3.5 of this GIP. Transmission Provider shall utilize existing studies to the extent practicable in performing the Interconnection Facilities Study. The Interconnection Facilities Study for an Interconnection Request shall be typically performed as a Group Study with respect to Common Use Upgrades and/or Interconnection Facilities or Connection Facilities common to more than one Interconnection Request.

At the request of Interconnection Customer or MHVDC Connection Customer or at any time Transmission Provider determines that it will not meet the required time frame for completing the Interconnection Facilities Study, Transmission Provider shall notify Interconnection Customer or MHVDC Connection Customer as to the schedule status of the Interconnection Facilities Study. If Transmission Provider is unable to complete the Interconnection Facilities Study within the time required, Transmission Provider shall notify Interconnection Customer and provide an estimated completion date and an explanation of the reasons why additional time is required. If Transmission Provider is unable to

complete the Interconnection Facilities Study with the study deposit provided by Interconnection Customer or MHVDC Connection Customer, Transmission Provider shall notify Interconnection Customer or MHVDC Connection Customer and provide a revised cost estimate with an explanation of the reasons why. Interconnection Customer or MHVDC Connection Customer shall then provide within fifteen (15) Calendar Days of Transmission Provider's notice, an additional deposit equal to the difference between the initial and revised cost estimate. Failure of Interconnection Customer or MHVDC Connection Customer to provide this additional deposit will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP.

Interconnection Customer or MHVDC Connection Customer and Transmission Owner may, within fifteen (15) Calendar Days after receipt of the draft Interconnection Facilities report and supporting documentation, provide written comments to Transmission Provider, which Transmission Provider shall include in the final Interconnection Facilities report. If the draft Interconnection Facilities report contains a Stand-Alone Network Upgrade, unless the Interconnection Customer has waived its option to build under Section 7.3.1.4, the cost estimate shall include the cost that the Transmission Owner will impose if the Interconnection Customer elects to build (e.g. oversight or management costs). Unless the Interconnection Customer has waived its option to build under Section 7.3.1.4, the Interconnection Customer shall either elect the option to build or waive the option to build Stand-Alone Network Upgrades identified in the second portion of the Interconnection Facilities Study within 15 calendar days of receiving the draft Interconnection Facilities report. If the Interconnection Customer elects the option to build, at the same time it makes that election, it must also supply completed cost estimates for Exhibits A7 and A8 as described in the

Business Practices Manual 15 for the Stand-Alone Network Upgrades that it has elected to build. Failure to provide a written response or a failure to provide the required cost estimates will be deemed to be a waiver of the Interconnection Customer's option to build. Nothing in this Section shall be interpreted to prohibit an Interconnection Customer, with Transmission Owner's consent, from waiving its option to build at a later time prior to GIA execution, but an Interconnection Customer is not entitled to reverse its waiver. If Interconnection Customer elects to build, Transmission Provider shall include that election in the final Interconnection Facilities report. Transmission Provider shall issue the final Interconnection Facilities report and supporting documentation within ten (10) Calendar Days of receiving the Interconnection Customer's or the MHVDC Connection Customer's comments or promptly upon receiving Interconnection Customer's or the MHVDC Connection Customer's statement that it will not provide comments. Transmission Provider may reasonably extend such fifteen-day period upon notice to Interconnection Customer or MHVDC Connection Customer if the Interconnection Customer's or the MHVDC Connection Customer's comments require Transmission Provider to perform additional analyses or make other significant revisions prior to the issuance of the final Interconnection Facilities Report. Upon request, Transmission Provider shall provide Interconnection Customer or MHVDC Connection Customer supporting documentation, work papers, and databases or data developed in the preparation of the Interconnection Facilities Study, subject to confidentiality arrangements consistent with Section 13.1.

Interconnection Customer or MHVDC Connection Customer shall maintain as confidential any information that is provided by Transmission Provider and identified as Critical Energy Infrastructure Information (CEII), as that term is defined in 18 C.F.R. Section 388.113(c). Such confidentiality will be maintained in accordance with Section 13.1.

#### **7.4 Meeting with Transmission Provider.**

Within ten (10) Business Days of providing draft GIA or TCA appendices and, as applicable, associated draft appendices for the related FCA(s) and/or MPFCA(s) and supporting documentation to Interconnection Customer, Transmission Owner and Interconnection Customer may meet to discuss the results of the Interconnection Facilities Study.

#### **7.5 Interconnection Study Restudy.**

If a restudy of any Interconnection Study is required because an Interconnection Request withdraws or is deemed to have withdrawn prior to all GIAs, TCAs, FCAs, and/or MPFCAs, as applicable, for each respective Definitive Planning Phase cycle have been executed or filed unexecuted with the Federal Energy Regulatory Commission, Transmission Provider shall provide notice of restudy as necessary. The Transmission Provider's notice shall include a summary of a preliminary analysis supporting the need for an Interconnection Study restudy, an explanation of why an Interconnection Study restudy is required and a good faith estimate of the cost to perform the Interconnection Study restudy. The Interconnection Study restudy shall be performed subject to the GIP and Business Practices Manuals in effect at the time notice is provided by Transmission Provider. Interconnection Customer or MHVDC Connection Customer shall notify Transmission Provider within five (5) Business Days whether Interconnection Customer or MHVDC Connection Customer wishes to proceed with the Interconnection Study restudy or withdraw its Interconnection Request. Transmission Provider shall deem Interconnection Customer's or MHVDC Connection Customer's failure to notify Transmission Provider to proceed to perform the Interconnection Study restudy as Interconnection Customer's or MHVDC Connection Customer's withdrawal of its Interconnection Request in accordance with Section 3.6 of this GIP. Transmission Provider shall use Reasonable Efforts to complete such Interconnection Study restudy no later than

sixty (60) Calendar Days from the date of notice. Transmission Provider may elect to perform any Interconnection Study restudy of Network Upgrades common to more than one Interconnection Request as a Group Study.

## **7.6 Refunds**

### **7.6.1 Refunds of Study Deposits**

Transmission Provider shall charge and Interconnection Customer or MHVDC Connection Customer shall pay the actual costs of the Interconnection Studies. Any difference between the study deposit and the actual cost of the applicable Interconnection Study shall be paid by or refunded to, except as otherwise provided herein, the Interconnection Customer. Any invoices for Interconnection Studies shall include a detailed and itemized accounting of the cost of each Interconnection Study. Interconnection Customer or MHVDC Connection Customer shall pay any such undisputed costs within thirty (30) Calendar Days of receipt of an invoice. Transmission Provider shall not be obligated to perform or continue to perform any studies unless Interconnection Customer or MHVDC Connection Customer has paid all undisputed amounts in compliance herewith.

All charges associated with performing Interconnection Studies, during all three phases of the Definitive Planning Phase, are the responsibility of Interconnection Customers or MHVDC Connection Customers with active Interconnection Requests during each respective Definitive Planning Phase.

If the Interconnection Customer or MHVDC Connection Customer withdraws its Interconnection Request any time before the end of Interconnection Customer Decision Point I, the Transmission Provider

will refund to the Interconnection Customer or MHVDC Connection Customer any unused portion of the study deposits. Any Interconnection Customer or MHVDC Connection Customer that withdraws its Interconnection Request, or is deemed to be withdrawn, during Definitive Planning Phase I but before Interconnection Customer Decision Point I is responsible for its pro rata portion of the group Interconnection Study costs for Definitive Planning Phase I. Any Interconnection Customer or MHVDC Connection Customer that withdraws its Interconnection Request, or is deemed to be withdrawn, prior to the expiration of Interconnection Customer Decision Point I will not be responsible to fund any Interconnection Studies that take place during or after the start of the Definitive Planning Phase II of the GIP.

If the Interconnection Customer or MHVDC Connection Customer withdraws its Interconnection Request any time after Interconnection Customer Decision Point I, but before the expiration of the Interconnection Customer Decision Point II, then the Transmission Provider will refund to the Interconnection Customer or MHVDC Connection Customer any unused portion of the study deposits. Any Interconnection Customer or MHVDC Connection Customer that withdraws its Interconnection Request, or is deemed to be withdrawn, during Definitive Planning Phase II but before Interconnection Customer Decision Point II is responsible for its pro rata portion of the group Interconnection Study costs for Definitive Planning Phase II. Any Interconnection Customer or MHVDC Connection Customer that withdraws its Interconnection Request prior to the expiration of Interconnection Customer Decision Point II will not be responsible to fund any Interconnection Studies that take place during or after the start of Definitive Planning Phase III of the GIP.

If the Interconnection Customer or MHVDC Connection Customer withdraws its Interconnection Request any time during Definitive Planning Phase III of the GIP, and if the Transmission Provider determines that an Interconnection Study restudy is required, then the withdrawing Interconnection Customer or MHVDC Connection Customer will be responsible to fund all such restudies in Definitive Planning Phase III of the GIP, up to the amount of that Interconnection Customer's total study deposit. However, if the Transmission Provider determines that no Interconnection Study restudy is required due to the withdrawal of Interconnection Customer's or MHVDC Connection Customer's Interconnection Request, then the withdrawing Interconnection Customer or MHVDC Connection Customer will not be responsible to fund any further Interconnection Studies during Definitive Planning Phase III of the GIP and the Transmission Provider shall refund to the Interconnection Customer or MHVDC Connection Customer any unused portion of the study deposit paid to enter the Definitive Planning Phase.

## **7.6.2 Refunds of Definitive Planning Phase Milestones (M2, M3, M4)**

### **7.6.2.1 Refunds of Definitive Planning Phase entry milestone (M2)**

Interconnection Customers and MHVDC Connection Customers are eligible to receive one hundred percent (100%) refund of the Definitive Planning Phase entry milestone (M2) only when the Interconnection Request is withdrawn or deemed withdrawn prior to the start of Definitive Planning Phase I or when Transmission Provider has completed review of Site Control sufficiency pursuant to Section 7.2.1.3 of the GIP and the Interconnection Request is deemed withdrawn due to Site Control deficiencies. Interconnection Customers and MHVDC Connection Customers are eligible to receive refund of forty percent (40%) of the Definitive Planning Phase entry milestone (M2) only when the

Interconnection Request is withdrawn or deemed withdrawn during Definitive Planning Phase I or at any time before or at the end of Interconnection Customer Decision Point I. The remaining 60% of the Definitive Planning Phase entry milestone (M2) becomes non-refundable pursuant to Section 7.6.2.1.1 and 7.8 of the GIP. If the Interconnection Request is withdrawn any time after the Interconnection Customer Decision Point I, then the entire Definitive Planning Phase entry milestone (M2) becomes non-refundable pursuant to Section 7.6.2.1.1 and 7.8 of the GIP.

#### **7.6.2.1.1 Calculation of the Automatic Withdrawal Penalty**

Interconnection Customer shall be subject to an Automatic Withdrawal Penalty if it withdraws its Interconnection Request, or the Interconnection request is deemed withdrawn pursuant to section 7.2.1.3 or section 3.6 of the GIP.

- (a) If Interconnection Request is withdrawn or deemed withdrawn during Definitive Planning Phase I or at any time before or at the end of Interconnection Customer Decision Point I, the Interconnection Customer shall be charged ten percent (10%) of the Definitive Planning Phase entry milestone (M2).
- (b) If the Interconnection Request is withdrawn or deemed withdrawn after Interconnection Customer Decision Point I and before or at the end of Interconnection Customer Decision Point II, the Interconnection Customer shall be charged thirty-five percent (35%) of the Definitive Planning Phase entry milestone (M2).



- (c) If the Interconnection Request is withdrawn or deemed withdrawn after Interconnection Customer Decision Point II and before the end of the Definitive Planning Phase III, the Interconnection Customer shall be charged seventy five percent (75%) of the Definitive Planning Phase entry milestone (M2).
- (d) If the Interconnection Request is withdrawn or deemed withdrawn after start of the Generator Interconnection Agreement (GIA) negotiations (within 5 days of posting of the Final System Impact Study report) the Interconnection Customer shall be charged one hundred percent (100%) of the Definitive Planning Phase entry milestone (M2).

#### **7.6.2.2 Refund of Definitive Planning Phase II milestone (M3)**

Interconnection Customers and MHVDC Connection Customers are eligible to receive one hundred percent (100%) refund of the Definitive Planning Phase II milestone (M3) only when the Interconnection Request is withdrawn or deemed withdrawn after Interconnection Customer Decision Point I and before or at the end of Interconnection Customer Decision Point II. If the Interconnection Request is withdrawn any time after the end of Interconnection Customer Decision Point II, then the Definitive Planning Phase II milestone (M3) becomes non-refundable pursuant to Section 7.8 of the GIP.

#### **7.6.2.3 Refund of Definitive Planning Phase II milestone (M4)**

If the Interconnection Customer or MHVDC Connection Customer decides to withdraw its Interconnection Request any time after entering the Definitive Planning Phase III, then the Definitive Planning Phase III milestone (M4) becomes non-refundable pursuant to Section 7.8 of the GIP.

#### **7.6.2.4 Withdrawal and refund due to increase in Network Upgrade costs**

Milestone payments will be refunded in the event the Interconnection Customer or MHVDC Connection Customer withdraws because the total Network Upgrade cost estimates in the Revised System Impact Study increased by more than fifty percent (50%) and more than \$10,000 per MW over the Preliminary System Impact Study as a result of Transmission Provider, or Transmission Owner error. To obtain a refund, Interconnection Customer must withdraw at the end of Interconnection Customer Decision Point II.

Milestone payments will be refunded in the event the Interconnection Customer or MHVDC Connection Customer withdraws because the total Network Upgrade cost estimates in the Final System Impact Study increased by more than thirty-five percent (35%) and more than \$10,000 per MW over the Revised System Impact Study as a result of Transmission Provider, Affected System or Transmission Owner error. To obtain a refund, Interconnection Customer must withdraw within five Business Days of posting the results of the Final System Impact Study.

Milestone payments less Automatic Withdrawal Penalty amount will also be refunded in the event the Interconnection Customer or MHVDC Connection Customer withdraws and the total Network Upgrade cost estimates in the Interconnection Facilities Study increased by more than thirty-five percent (35%) and more than \$10,000 per MW over the Network Upgrade cost estimates in the Final System Impact Study. To obtain a refund, Interconnection Customer must withdraw within five Business Days of posting the results of the Interconnection Facilities Study.

Milestone payments less Automatic Withdrawal Penalty amount will also be refunded in the event the Interconnection Customer or MHVDC Connection Customer withdraws within the later of five (5) Business Days of the results of the study or at the end of an Interconnection Customer Decision Point, if applicable, of results indicating designated increases in estimated upgrade costs across the following intervals:

1. DPP Phase I to DPP Phase II
  - a. An increase in MISO Network Upgrade costs from Phase I to Phase II of at least 50%, and more than \$10,000 per MW from the Preliminary SIS to the Revised SIS.
2. DPP Phase II to DPP Phase III
  - a. An increase in the combined Network Upgrade and Affected System costs from Phase II to Phase III of thirty-five percent (35%) and more than \$15,000 per MW from the Revised SIS to any Final SIS.

**7.7 Applicability of Definitive Planning Phase Milestone Payments (M2, M3, and M4) to Generator Interconnection Agreement Initial Payment or Transmission Connection Agreement Initial Payment**

In the event the Interconnection Customer has elected to make its milestones in the form of cash, Transmission Provider will transfer the Definitive Planning Phase milestones to the appropriate Transmission Owner to satisfy the initial payment requirement of the Generator Interconnection Agreement, TCA or other applicable service agreement within forty-five (45) Calendar Days of the effective date of the Generator Interconnection Agreement, TCA or other applicable service agreement. The Transmission Provider shall refund Milestone cash payments exceeding the initial payment requirement to the Interconnection Customer, MHVDC Connection Customer or the applicable Transmission Owner upon Interconnection Customer's or MHVDC Connection Customer's request

with Transmission Owner's consent, within forty-five (45) Calendar Days of the effective date of the Generator Interconnection Agreement, TCA or other applicable service agreement. In the event the milestone payments are less than the initial payment requirement, the Interconnection Customer or MHVDC Connection Customer shall be responsible for the remaining payment to the Transmission Owner.

In the event milestone payments were provided pursuant to an irrevocable letter of credit, such letter of credit shall be released upon satisfaction of the initial payment requirement in the Generator Interconnection Agreement, TCA or other applicable service agreement.

#### **7.8 Use of Definitive Planning Phase Entry At Risk Milestone Payments (M2, M3 and M4) or Payments of Withdrawn Projects**

Upon completion of the Definitive Planning Phase III and after any subsequent restudy performed after Definitive Planning Phase III, Transmission Provider will determine the financial impact of withdrawn projects on each remaining Interconnection Request in the same cycle. This financial impact will be determined using the following two-step method.

Step 1: Transmission Provider first determines the cost of upgrades that are shifted from withdrawn projects to remaining projects that were co-participants in Common Use Upgrades or Shared Network Upgrades.

For projects that withdrew before the completion of Interconnection Customer Decision Point I with at-risk milestones, the Transmission provider will determine the costs that were shifted from withdrawn projects to remaining projects that were co-participants in Common Use Upgrades or Shared Network Upgrades. In order to determine whether a withdrawal caused overall financial impact to those remaining Interconnection Requests, the

Transmission Provider shall compare the planning level cost allocation between the Preliminary System Impact Study and the Final System Impact Study.

For projects that withdrew after the completion of Interconnection Customer Decision Point I but before the completion of Interconnection Customer Decision Point II with at-risk milestones, the Transmission Provider will determine the costs that were shifted from withdrawn projects to remaining projects that were co-participants in Common Use Upgrades or Shared Network Upgrades. In order to determine whether a withdrawal caused overall financial impact to those remaining Interconnection Requests, the Transmission Provider shall compare the planning level cost allocation between the Revised System Impact Study and the Final System Impact Study.

For projects that withdrew after the completion of Interconnection Customer Decision Point II with at-risk milestones or payments, the Transmission Provider will determine the costs that were shifted from withdrawn projects to remaining projects that were co-participants in Common Use Upgrades or Shared Network Upgrades. In order to determine whether a withdrawal caused overall financial impact to those remaining Interconnection Requests, the Transmission Provider shall compare the planning level cost allocation between the last study the withdrawing project was included in and the subsequent study.

For each of the step 1 comparisons, if the comparative planning level cost analysis indicates that a project withdrawal causes an increase in financial impact to any remaining co-participants, a financial impact analysis will be performed to determine if the overall costs to the remaining co-participants subsequently increased, those remaining co-participants will be credited using the milestones,

and/or payment(s) made under a GIA, FCA, or MPFCA that were forfeited by the withdrawn Interconnection Customers or MHVDC Connection Customers in the same cycle.

Step 2: Transmission Provider will calculate the financial impact to each remaining Interconnection Request that is obligated to fund Network Upgrades other than Common Use Upgrades or Shared Network Upgrades.

For projects that withdrew before the completion of Interconnection Customer Decision Point I with at-risk milestones, the Transmission provider will determine the costs that were shifted from withdrawn projects to remaining projects that fund Network Upgrades other than Common Use Upgrades or Shared Network Upgrades. In order to determine whether a withdrawal caused overall financial impact to those remaining Interconnection Requests, the Transmission Provider shall compare the planning level cost allocation between the Preliminary System Impact Study and the Final System Impact Study.

For projects that withdrew after the completion of Interconnection Customer Decision Point I but before the completion of Interconnection Customer Decision Point II with at-risk milestones, the Transmission Provider will determine the costs that were shifted from withdrawn projects to remaining projects that fund Network Upgrades other than Common Use Upgrades or Shared Network Upgrades. In order to determine whether a withdrawal caused overall financial impact to those remaining Interconnection Requests, the Transmission Provider shall compare the planning level cost allocation between the Revised System Impact Study and the Final System Impact Study.

For projects that withdrew after the completion of Interconnection Customer

Decision Point II with at-risk milestones or payments, the Transmission Provider will determine the costs that were shifted from withdrawn projects to remaining projects that fund Network Upgrades other than Common Use Upgrades or Shared Network Upgrades. In order to determine whether a withdrawal caused overall financial impact to those remaining Interconnection Requests, the Transmission Provider shall compare the planning level cost allocation between the Final System Impact Study and the subsequent restudy. For each of the Step 2 comparisons, if any portion of the comparative analyses indicates that the withdrawal of a project causes an increase in the total cost of Network Upgrades, other than Common Use Upgrades or Shared Network Upgrades, for any of the remaining Interconnection Requests, the Transmission Provider will use the Definitive Planning Phase at-risk milestones (M2, M3 and M4), collected from the withdrawn Interconnection Requests in the current Definitive Planning Phase cycle and/or payment(s) made under a GIA, FCA, or MPFCA, to offset the cost difference for those remaining Interconnection Requests in the same cycle. If any portion of the comparative analyses indicated that the withdrawal of a project causes a decrease in the total cost of Network Upgrades, other than Common Use Upgrades or Shared Network Upgrades, for any of the remaining Interconnection Requests, those remaining Interconnection Customers and MHVDC Connection Customers shall not receive any reimbursement from the collected Definitive Planning Phase milestones and/or payment(s) made under a GIA, FCA, or MPFCA. If any portion of the comparative analyses indicates that the withdrawal of a project causes the total cost of Network Upgrades, other than Common Use Upgrades or Shared Network Upgrades, for any of the remaining Interconnection Requests to remain the same, those remaining Interconnection Customers and MHVDC Connection Customers shall not receive any reimbursement from the collected Definitive Planning Phase milestones and/or payment(s) made under a GIA, FCA, or MPFCA.

The total allocation to any remaining Interconnection Requests will not exceed

the total Definitive Planning Phase milestones collected from the Interconnection Customers and MHVDC Connection Customers that withdrew their Interconnection Requests from the same Definitive Planning Phase cycle and/or the allowable amount from the payment(s) made under a GIA, FCA, or MPFCA. In instances where the total cost of Network Upgrades has increased for multiple Interconnection Requests, but the collected Definitive Planning Phase milestones and/or the allowable amount from the payment(s) made under a GIA, FCA, or MPFCA are insufficient to cover the increase in total cost of Network Upgrades for all affected Interconnection Requests, the Transmission Provider will allocate the collected Definitive Planning Phase milestones equally as a percentage of increased Network Upgrade costs.

If any collected Definitive Planning Phase milestones and/or payment(s) made under a GIA, FCA, or MPFCA remain after allocating to remaining affected Interconnection Requests, the Transmission Provider will refund the remaining collected Definitive Planning Phase at-risk milestones to each Interconnection Customer and MHVDC Connection Customer in proportion to that customer's forfeited milestone payments as a *pro rata* share of the total collected Definitive Planning Phase milestones and/or payments made under a GIA, FCA, or MPFCA.

The amount of the payment(s) made under a GIA, FCA, or MPFCA that can be used to compensate for financial impact under this Section cannot exceed the amount of the Interconnection Customer's or MHVDC Connection Customer's Definitive Planning Phase milestones.

#### **7.8.1 Use of the Automatic Withdrawal Penalty Payments**

For each DPP study group, Transmission Provider shall hold all Automatic Withdrawal Penalty funds until all Interconnection Customers in that study group have either: (1) withdrawn or been deemed withdrawn; (2) executed a



GIA; or (3) requested a GIA to be filed unexecuted. Any Automatic Withdrawal Penalty funds collected from each DPP study group shall be allocated towards studies cost and Network Upgrade costs for Interconnection Customers in the same study group that have executed the GIA or requested the GIA to be filed unexecuted.

Automatic Withdrawal Penalty funds shall be distributed to the Interconnection Customers in the same DPP study group that executed their GIA or requested to have their GIA filed unexecuted following the last Effective Date of any GIA for an Interconnection Request in the study group. The amount of Automatic Withdrawal Penalty funds distributed to an Interconnection Customer shall not exceed the total study costs and Network Upgrade costs.

## **7.9 Provisional Generator Interconnection Agreement**

The Transmission Provider may provide a provisional Generator Interconnection Agreement for limited operation at the discretion of Transmission Provider based upon the results of available studies that indicate that there is a level of interconnection that can occur without any additional Network Upgrades. An Interconnection Customer may request such Provisional Generator Interconnection Agreement by providing written notice to the Transmission Provider beginning upon Interconnection Request submission and up to and through Interconnection Customer Decision Point II (Section 7.3.2.4 of this GIP). An Interconnection Customer that qualifies for inclusion in a JTIQ Participation Group shall execute or request the unexecuted filing of the JTIQ Commitment Agreement concurrently with their provisional GIA and, if tendered, the SPP JTIQ Service Agreement. If the SPP JTIQ Service Agreement has not been tendered to Interconnection Customer by the time such Interconnection Customer executes or rests the unexecuted filing of the provisional Generator Interconnection Agreement, the provisional Generator Interconnection Agreement

shall include a milestone in Appendix B requiring the Interconnection Customer to execute or request the unexecuted filing of such agreement within fifteen (15 days after it is tendered).

If scheduled Interconnection Customer Decision Point I, Interconnection Customer Decision Point II, or the Interconnection Facilities Study for Network Upgrades becomes delayed by more than sixty (60) Calendar Days, Interconnection Customers may also request a Provisional Generator Interconnection Agreement from Transmission Provider. A request for a Provisional Generator Interconnection Agreement at any other time shall be deemed invalid by the Transmission Provider.

All provisions of the Definitive Planning Phase (Section 7 of this GIP) apply, except as provided in Section 7.9.1. After receiving a request for a Provisional Generator Interconnection Agreement, the Transmission Provider will begin the first portion of the Interconnection Facilities Study as discussed in Section 7.3.3.4 and will perform a Provisional Interconnection Study. After completing required studies, the Transmission Provider will issue a draft Provisional Generator Interconnection Agreement pursuant to Section 11.2.

#### **7.9.1 Additional Definitive Planning Phase Requirements for Provisional Generator Interconnection Agreements**

Interconnection Customers seeking a Provisional Generator Interconnection Agreement must submit Definitive Planning Phase II and Definitive Planning Phase III Milestones (M3 and M4). If M3 and M4 have not been calculated at the time of Interconnection Customer's request for a Provisional Generator Interconnection Agreement, M3 and M4 shall each be initially \$8,000 per MW. The Transmission Provider shall then calculate the M3 and M4 as provided in Sections 7.3.1.4.1 and 7.3.2.4.1. If the actually calculated M3 and M4 values are higher than the M3 and

M4 previously paid, Interconnection Customer shall pay any difference between the M3 and M4 previously paid and the actually calculated values within thirty (30) Calendar Days of those amounts being calculated by the Transmission Provider. Failure to pay any difference between the calculated M3 and M4 and the initially paid M3 and M4 within thirty (30) Calendar Days shall result in automatic withdrawal of the Interconnection Request. If the actually calculated M3 and M4 values are lower than the M3 and M4 previously paid, Transmission Provider shall refund any difference between the M3 and M4 previously paid and the actually calculated values.

#### **7.9.2 Consent to Proceed Through Definitive Planning Phase Decision Points**

Interconnection Customers seeking a Provisional Generator Interconnection Agreement automatically consent to the Transmission Provider moving the Interconnection Request through Definitive Planning Phases II and III without regard to Interconnection Customer Decision Point II unless notification of withdrawal is provided to the Transmission Provider.

#### **7.9.3 Withdrawal**

Interconnection Customers seeking a Provisional Generator Interconnection Agreement are eligible to receive one hundred percent (100%) refund of all Definitive Planning Phase milestones (M2, M3, and M4) only when the Interconnection Request is withdrawn prior to the start of Definitive Planning Phase I and unencumbered study deposits remaining, except as noted in Section 4.1.2.3. Interconnection Customers seeking a Provisional Generator Interconnection Agreement at the time of Interconnection Request submission may withdraw before the end of Interconnection Customer Decision Point I and Transmission Provider will

refund forty percent (40%) of the Definitive Planning Phase entry milestone (M2), all of the Definitive Planning Phase Milestone payments M3 and M4, and unencumbered study deposits remaining. Sixty percent (60%) of the Definitive Planning Phase entry Milestone (M2) becomes non – refundable pursuant to section 7.6.2.1.1 and Section 7.8 of the GIP. After Interconnection Customer Decision Point I, Interconnection Customers seeking a Provisional Generator Interconnection Agreement may withdraw from the Transmission Provider’s interconnection queue at any time, but all Definitive Planning Phase milestones (M2, M3, and M4) become non-refundable pursuant to section 7.6.2.1.1 and Section 7.8, and will be used in accordance to Section 7.8 and Section 7.8.1. Interconnection Customers seeking a Provisional Generator Interconnection Agreement shall not be eligible for any milestone payment refunds provided under Section 7.6.2.4.

#### **7.9.4 Reversion to Standard Definitive Planning Phase Process**

Interconnection Customers seeking a Provisional Generator Interconnection Agreement may notify Transmission Provider before and during Interconnection Customer Decision Point I that the Interconnection Customer wishes to revert to the standard Definitive Planning Phase process. Transmission Provider will subsequently refund the Definitive Planning Phase III (M4) milestone payment. Interconnection Customer must then continue to abide by all Definitive Planning Phase requirements.

### **SECTION 8. {RESERVED}**

### **SECTION 9. ENGINEERING & PROCUREMENT (“E&P”) AGREEMENT.**

Prior to executing an GIA, an Interconnection Customer may, in order to advance the implementation of its interconnection, request and Transmission Provider

shall offer Interconnection Customer, an E&P Agreement that authorizes Transmission Owner to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection. However, Transmission Provider shall not be obligated to offer an E&P Agreement if Interconnection Customer is in Dispute Resolution as a result of an allegation that Interconnection Customer has failed to meet any milestones or comply with any prerequisites specified in other parts of the GIP. The E&P Agreement is an optional procedure and it will not alter the Interconnection Customer's Definitive Planning Phase Queue Position or In-Service Date. The E&P Agreement shall provide for Interconnection Customer to pay the cost of all activities authorized by Interconnection Customer and to make advance payments or provide other satisfactory security for such costs.

Interconnection Customer shall pay the cost of such authorized activities and any cancellation costs for equipment that is already ordered for its Interconnection Request, which cannot be mitigated as hereafter described, whether or not such items or equipment later become unnecessary. If Interconnection Customer withdraws its application for interconnection or a Party to the E&P Agreement terminates the E&P Agreement, to the extent the equipment ordered can be canceled under reasonable terms, Interconnection Customer shall be obligated to pay the associated cancellation costs. To the extent that the equipment cannot be reasonably canceled, Transmission Owner may elect: (i) to take title to the equipment, in which event Transmission Owner shall refund Interconnection Customer any amounts paid by Interconnection Customer for such equipment and shall pay the cost of delivery of such equipment, or (ii) to transfer title to and deliver such equipment to Interconnection Customer, in which event Interconnection Customer shall pay any unpaid balance and cost of delivery of such equipment.

## **SECTION 10. OTHER INTERCONNECTION STUDIES.**

## **10.1 Optional Interconnection Study**

### **10.1.1 Optional Interconnection Study Agreement.**

Optional Interconnection Studies are for informational purposes only and are to be completed within an agreed upon time period using Reasonable Efforts. The request for an Optional Interconnection Study can be made on a stand-alone basis or in parallel with the processing of valid Interconnection Request. The request shall describe the assumptions that Interconnection Customer or MHVDC Connection Customer wishes Transmission Provider to study within the scope described in Section 10.1.2. Within five (5) Business Days after receipt of a request for an Optional Interconnection Study, Transmission Provider shall provide to Interconnection Customer an Optional Interconnection Study Agreement in the form of Appendix 5.

The Optional Interconnection Study Agreement shall: (i) specify the technical data that Interconnection Customer or MHVDC Connection Customer must provide for each phase of the Optional Interconnection Study, and (ii) specify Interconnection Customer's or MHVDC Connection Customer's assumptions as to which Interconnection Requests with earlier queue priority dates will be excluded from the Optional Interconnection Study case and assumptions as to the type of Interconnection Service for Interconnection Requests remaining in the Optional Interconnection Study case. Notwithstanding the above, Transmission Provider shall not be required as a result of an Optional Interconnection Study request to conduct any additional Interconnection Studies with respect to any other Interconnection Request and shall continue processing the Interconnection Request in accordance with these GIP.

Interconnection Customer or MHVDC Connection Customer shall execute the Optional Interconnection Study Agreement within ten (10) Business Days of receipt and deliver the Optional Interconnection Study Agreement, the technical data and a deposit equal to sixty thousand dollars (\$60,000.00) to Transmission Provider.

#### **10.1.2 Scope of Optional Interconnection Study.**

The Optional Interconnection Study will consist of a sensitivity analysis based on the assumptions specified by Interconnection Customer or MHVDC Connection Customer in the Optional Interconnection Study Agreement. The Optional Interconnection Study will also identify the Transmission Owner's Interconnection Facilities, System Protection Facilities, Distribution Upgrades, Generator Upgrades, Common Use Upgrades, and the Network Upgrades, and the estimated cost thereof, that may be required to provide transmission service or Interconnection Service based upon the results of the Optional Interconnection Study. The Optional Interconnection Study shall be performed solely for informational purposes. Transmission Provider shall use Reasonable Efforts to coordinate the study with any Affected Systems that may be affected by the types of Interconnection Services that are being studied. Transmission Provider shall utilize existing studies to the extent practicable in conducting the Optional Interconnection Study.

#### **10.1.3 Optional Interconnection Study Procedures.**

The executed Optional Interconnection Study Agreement, the prepayment, and technical and other data called for therein must be provided to Transmission Provider within ten (10) Business Days of Interconnection Customer or MHVDC Connection Customer receipt of the Optional Interconnection Study Agreement. Transmission Provider shall use Reasonable Efforts to complete the Optional Interconnection Study within

a mutually agreed upon time period specified within the Optional Interconnection Study Agreement. If Transmission Provider is unable to complete the Optional Interconnection Study within such time period, it shall notify Interconnection Customer or MHVDC Connection Customer and provide an estimated completion date and an explanation of the reasons why additional time is required. Any difference between the study payment and the actual cost of the study shall be paid to Transmission Provider or refunded to Interconnection Customer, as appropriate. Upon request, Transmission Provider shall provide Interconnection Customer or MHVDC Connection Customer supporting documentation and workpapers and databases or data developed in the preparation of the Optional Interconnection Study, subject to confidentiality arrangements consistent with Section 13.1.

## **10.2 Provisional Interconnection Study**

### **10.2.1 Scope of Provisional Interconnection Study**

The Provisional Interconnection Study will consist of stability, short circuit, and voltage analysis to identify issues that would result if the Generating Facility were interconnected without project modifications or system modifications. The Provisional Interconnection Study will also identify the Transmission Owner's Interconnection Facilities, System Protection Facilities, Distribution Upgrades, Generator Upgrades, Common Use Upgrades, and the Network Upgrades, and the estimated cost thereof, that may be required to provide Energy Resource Interconnection Service on a provisional basis based upon the results of the Provisional Interconnection Study. Transmission Provider shall use Reasonable Efforts to coordinate the study with any Affected Systems that may be affected by the type of Interconnection Service that is being studied. Transmission Provider shall utilize existing studies to the extent



practicable in conducting the Provisional Interconnection Study.

#### **10.2.2 Provisional Interconnection Study Procedures**

Transmission Provider must receive the information and milestones as described in Sections 7.9 and 7.9.1 prior to beginning the Provisional Interconnection Study. Transmission Provider shall use Reasonable Efforts to complete the Provisional Interconnection Study within a mutually agreed upon time. If Transmission Provider is unable to complete the Provisional Interconnection Study within such time period, it shall notify Interconnection Customer or MHVDC Connection Customer and provide an estimated completion date and an explanation of the reasons why additional time is required. Actual cost of the Provisional Interconnection Study shall be paid by Interconnection Customer or MHVDC Connection Customer pursuant to Section 7.6.1. Upon request, Transmission Provider shall provide Interconnection Customer or MHVDC Connection Customer supporting documentation and workpapers and databases or data developed in the preparation of the Provisional Interconnection Study, subject to confidentiality arrangements consistent with Section 13.1.

### **SECTION 11. GENERATOR INTERCONNECTION AGREEMENT (GIA), FACILITIES CONSTRUCTION AGREEMENT (FCA), AND MULTI- PARTY FACILITIES CONSTRUCTION AGREEMENT (MPFCA).**

#### **11.1 Tender.**

Except as provided in Section 11.1.1, Transmission Provider shall tender to the Interconnection Customer a draft GIA and, as applicable, draft JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s), together with draft appendices completed to the extent practicable, within five (5) Business Days after issuance of the applicable first portion of the Interconnection Facilities Study report and

Final System Impact Study report.

Throughout this Section 11, the applicable Interconnection Facilities Study for a GIA shall be the Interconnection Facilities Study that was initiated for that project in DPP Phase II. [For EGIAs, this shall be the applicable Interconnection Facilities Study initiated through ERAS.](#) Throughout this Section 11, the applicable Interconnection Facilities Study for a Network Upgrade that is addressed in a FCA or MPFCA shall be the Interconnection Facilities Study performed for that Network Upgrade.

At the request of any Party, [and except for Interconnection Requests for an ERAS](#), Transmission Provider shall tender to the Interconnection Customer a draft GIA and, as applicable, JTIQ Service Agreement(s), draft FCA(s), together with draft appendices completed to the extent practicable, within ten (10) Calendar Days of receiving such request, provided such request is received after the completion of Interconnection Customer Decision Point II and issuance of the draft Phase II Interconnection Facilities Study. The draft GIA and, as applicable, draft FCA and the Transmission Provider's JTIQ Service Agreement(s), shall be in the form of the Transmission Provider's current *pro forma*. In the event that SPP's JTIQ Service Agreement has not been provided to Interconnection Customer prior to tender of a draft GIA, the draft GIA shall include a milestone in Appendix B obligating Interconnection Customer to execute or request the unexecuted filing of SPP's JTIQ Service Agreement not later than 15 Calendar Days after such agreement has been tendered to the Interconnection Customer.

#### **11.1.1 Common Use Upgrades and Multi-Party Facilities Construction Agreements.**

In the event that the Final System Impact Study report indicates that more than one Interconnection Request causes the need for Network Upgrades or System

Protection Facilities, Transmission Provider shall determine whether such Network Upgrades or System Protection Facilities are Common Use Upgrades requiring the use of a MPFCA. No later than ten (10) Calendar Days after issuance of the Final System Impact Study report and the applicable final Interconnection Facilities Study reports for each of the projects that are a part of the MPFCA, Transmission Provider shall tender the draft MPFCA to all Interconnection Customers that create the need and share the responsibility for the Common Use Upgrade. If Transmission Provider determines that an Interconnection Customer should be added to an MPFCA as a party, Transmission Provider shall tender a draft MPFCA to the prospective Interconnection Customer and include the prospective Interconnection Customer in Group Studies as applicable.

Upon the written request of all Interconnection Customers that are Party to the MPFCA, Transmission Provider shall tender the MPFCA within ten (10) Calendar Days of receiving such written request, provided such request is received after issuance of: (i) the Final System Impact Study report; and (ii) the applicable draft Interconnection Facilities Study reports for each of the projects that are a part of the MPFCA.

## **11.2 Negotiation.**

Interconnection Customer and Transmission Owner shall return comments on the draft GIA, and as applicable, JTIQ Service Agreement(s), draft FCA(s) and/or MPFCA(s) within twenty (20) Business Days, [or for Interconnection Requests in an ERAS five \(5\) Business Days](#), of receipt of the draft GIA, and as applicable, draft FCA(s) and/or MPFCA(s), along with the completion of the parts of the appendices for which Interconnection Customer is responsible. Within ten (10) Business Days after the comments are submitted, [or for Interconnection Requests in an ERAS five \(5\) Business Days](#), Transmission Provider shall tender a revised draft GIA, and as applicable, draft FCA(s) and/or MPFCA(s) to the Parties,

together with draft appendices.

The Parties shall begin negotiations concerning the appendices to the GIA, and, as applicable, FCA(s) and/or MPFCA(s) upon tender of the draft GIA, and as applicable, draft FCA(s) and/or MPFCA(s) to the Parties in accordance with the terms of Section 11.1 of this GIP. Except as provided in Section 11.2.1 of this GIP, Transmission Provider, Transmission Owner, and Interconnection Customer shall negotiate the GIA for no more than forty (40) Business Days after issuance of the Final System Impact Study report. [For Interconnection Requests in an ERAS twenty \(20\) Business Days from notice to proceed in Section 3.9.4 of these GIP.](#) Transmission Provider, Transmission Owner, and Interconnection Customer shall negotiate draft FCA(s) and/or MPFCA(s) for no more than forty (40) Business Days after issuance of the applicable final Interconnection Facilities Study Reports applicable to the FCA(s) and/or MPFCA(s) that are subject to negotiation and the Final System Impact Study report.

If Interconnection Customer, Transmission Owner or Transmission Provider determines that negotiations are at an impasse, it may request termination of the negotiations by providing written notice to the other parties at any time after tender of the draft GIA, and, as applicable, JTIQ Service Agreement(s), draft FCA(s) and/or MPFCA(s) pursuant to Section 11.1 and request submission of the unexecuted GIA, and, as applicable, JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) with FERC or initiate Dispute Resolution procedures pursuant to Section 13.5. The Interconnection Customer, Transmission Owner or Transmission Provider may request such termination and request for an unexecuted filing during the negotiation period established in this Section 11.2 and under the negotiation period established in Section 11.2.1 of this GIP, as applicable. If an Interconnection Customer requests termination of its negotiations, but within thirty (30) Calendar Days thereafter fails to request the filing of the unexecuted GIA, and, as applicable, tendered JTIQ Service

Agreement(s), FCA(s) and/or MPFCA(s), it shall be deemed to have withdrawn its Interconnection Request.

### **11.2.1 Optional negotiation period adjustment for Interconnection Facilities Study.**

Except for Interconnection Requests in an ERAS, ~~T~~the Interconnection Customer may postpone the start of the negotiation period for the GIA, and as applicable, draft FCA(s) and/or MPFCA(s), until the issuance of the applicable final Interconnection Facilities Study report. Interconnection Customer shall make such election by providing written notice to the Transmission Provider prior to the posting of the Final System Impact Study report. If Interconnection Customer makes such election, Transmission Provider, Transmission Owner, and Interconnection Customer shall negotiate the GIA and as applicable, JTIQ Commitment Agreements, draft FCA(s) and/or MPFCA(s), for no more than forty (40) Business Days after issuance of the final applicable Interconnection Facilities Study.

### **11.3 Execution and Filing.**

Transmission Provider shall provide to Interconnection Customer and Transmission Owner a final GIA, and, as applicable, final JTIQ Service Agreement(s), final FCA(s) and/or final MPFCA(s) prepared for execution by the parties within fifteen (15) Business Days after the completion of the forty (40) Business Day negotiation period in accordance with Section 11.2 of this GIP. For Interconnection Requests for an ERAS, the Transmission Provider shall provide to Interconnection Customer and Transmission Owner a final EGIA within ten (10) Business Days after the completion of the negotiation period in accordance with Section 11.2 of this GIP. Within forty-five (45) Calendar Days of tender of the final GIA, and, as applicable, final JTIQ Service Agreement(s), final FCA(s) and final MPFCA(s), Interconnection Customer and Transmission Owner shall either: (i) execute the tendered GIA, and, as applicable, final JTIQ Service

Agreement(s), FCA(s) and/or MPFCA(s); or (ii) request in writing that Transmission Provider file with FERC the GIA, and, as applicable, JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) in unexecuted form.

If Interconnection Customer has neither executed the GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s), nor requested filing of the GIA, and, as applicable, JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) in unexecuted form within forty-five (45) Calendar Days, [or for Interconnection Requests in an ERAS ten \(10\) Business Days](#) of tender of the final GIA, and, as applicable, JTIQ Service Agreement(s), final FCA(s) and final MPFCA(s), Interconnection Customer shall be deemed to have withdrawn its Interconnection Request. The Interconnection Customer's forty-five (45) Calendar Day deadline for execution will not reset in the event that an additional change is made to the GIA, JTIQ Service Agreement(s), FCA, or MPFCA after circulation for execution.

Within ten (10) Business Days after receiving from the Interconnection Customer(s) and the Transmission Owner either the executed tendered GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) or the request to file an unexecuted GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s), Transmission Provider shall file the GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) with FERC, together with its explanation of any matters as to which Interconnection Customer, Transmission Owner and Transmission Provider disagree and support for the costs that Transmission Owner proposes to charge to Interconnection Customer under the GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s). An unexecuted GIA, and, as applicable, JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s), shall contain terms and conditions deemed appropriate by Transmission Provider for the Interconnection Request.

Within one-hundred and eighty (180) Calendar Days after receipt of the final GIA Interconnection Customer shall provide Transmission Provider with reasonable evidence that one or more of the following milestones in the development of the Generating Facility has been achieved: (i) the execution of a contract for the supply or transportation of fuel to the Generating Facility; (ii) the execution of a contract for the supply of cooling water to the Generating Facility; (iii) execution of a contract for the engineering for, procurement of major equipment for, or construction of, the Generating Facility; (iv) execution of a contract for the sale of electric energy or capacity from the Generating Facility, or a statement signed by an authorized officer from or agent of Interconnection Customer attesting that Interconnection Customer owns the Generating Facility and it is required to serve load; or (v) documentation of application for all necessary state and local air, water, land, federal nuclear, and/or Environmental Law permits and that the application is proceeding per regulations.

#### **11.4 Commencement of Interconnection Activities.**

If Interconnection Customer executes the final GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) Transmission Provider, Transmission Owner and Interconnection Customer shall perform their respective obligations in accordance with the terms of the GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s), subject to modification by FERC. Unless otherwise agreed by all Parties, upon submission of an unexecuted GIA, and, as applicable, unexecuted tendered JTIQ Service Agreement(s), unexecuted FCA(s) and/or unexecuted MPFCA(s), the Parties shall promptly comply with the unexecuted GIA, and, as applicable, unexecuted JTIQ Service Agreement(s), unexecuted FCA(s) and/or unexecuted MPFCA(s), subject to modification by FERC. As applicable, compliance with the terms of such unexecuted JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) or execution and performance under a JTIQ Service Agreement(s), FCA and/or MPFCA will

be a requirement under the GIA.

#### **11.5 Special Considerations.**

The maximum permissible output of the Generating Facility in the Provisional Generator Interconnection Agreement will be updated on a quarterly basis, and determined by finding the transfer limit of energy commensurate with the analysis for Energy Resource Interconnection Service. This study shall be performed assuming the system topology represented by the base cases used to calculate Available Flowgate Capability as described in Attachment C of this Tariff with dispatch and optimization algorithms posted on the MISO internet site. Limits will be posted on the Transmission Provider's OASIS site, and operation above those limits will be deemed as unauthorized use of the transmission system and subject to provisions in this Tariff surrounding that use. Interconnection Customer assumes all risks and liabilities with respect to changes, which may impact the Generator Interconnection Agreement including, but not limited to, change in output limits and future Network Upgrade cost responsibilities.

#### **11.6 Quarterly Operating Limit Studies.**

Interconnection Customers subject to Quarterly Operating Limits shall be responsible for the cost of performing the required quarterly studies.

Interconnection Customers shall submit a Quarterly Operating Limit study deposit in the amount of \$10,000 sixty (60) Calendar Days prior to the start of the first applicable binding quarter. Any difference between the study deposit and the actual cost of the applicable Quarterly Operating Limit studies shall be paid by, or refunded to, the Interconnection Customer. MISO will refund any difference the quarter following the Interconnection Customer no longer being subject to Quarterly Operating Limits.

## **SECTION 12. CONSTRUCTION OF TRANSMISSION OWNER'S OR AFFECTED SYSTEM TRANSMISSION OWNER'S INTERCONNECTION**



## **FACILITIES, SYSTEM PROTECTION FACILITIES, DISTRIBUTION UPGRADES AND NETWORK UPGRADES.**

### **12.1 Schedule.**

Transmission Owner, Interconnection Customer, and, as applicable, Interconnection Customers in an MPFCA and a Transmission Owner that is an Affected System and, at its election, Transmission Provider shall negotiate in good faith concerning a schedule for the construction of the Transmission Owner's Interconnection Facilities, System Protection Facilities, Distribution Upgrades, Network Upgrades, Common Use Upgrades, and the Stand-Alone Network Upgrades, excluding JTIQ Upgrades. Interconnection Customer and Transmission Owner shall each provide the other Parties its detailed construction schedule.

### **12.2 Construction Sequencing.**

#### **12.2.1 General**

In general, the In-Service Date of an Interconnection Customer seeking interconnection to the Transmission System will determine the sequence of construction of Transmission Owner's Interconnection Facilities, System Protection Facilities, Distribution Upgrades, if any, and Network Upgrades, including any Common Use Upgrades. If the time required to build the facilities described in the GIA, and, as applicable, FCA(s) and/or MPFCA(s), excluding JTIQ Upgrades, is greater than the time between execution of the GIA, and, as applicable, FCA(s) and/or MPFCA(s) and the requested In-Service Date, the In-Service Date will be adjusted through the milestones delineated in the GIA, and as applicable, FCA(s) and/or MPFCA(s) appendices prior to the execution of the Generator Interconnection Agreement.

**12.2.2 Advance Construction of Network Upgrades, System Protection Facilities, Distribution Upgrades or Generator Upgrades that are an Obligation of an Entity other than Interconnection Customer**

An Interconnection Customer with a GIA, and, as applicable, FCA(s) and/or MPFCA(s), in order to maintain its In-Service Date, may request that Transmission Owner advance to the extent necessary the completion of Network Upgrades, System Protection Facilities or Distribution Upgrades that: (i) were assumed in the Interconnection Studies for such Interconnection Customer, (ii) are necessary to support such In-Service Date, and (iii) would otherwise not be completed, pursuant to a contractual obligation of an entity other than Interconnection Customer that is seeking interconnection to the Transmission System, in time to support such In-Service Date. Upon such request, Transmission Owner will use Reasonable Efforts to advance the construction of such Network Upgrades, System Protection Facilities or Distribution Upgrades, to the extent it is obligated for any such construction, to accommodate such request; provided that Interconnection Customer commits to pay Transmission Owner: (i) any associated expediting costs and (ii) the cost of such Network Upgrades, System Protection Facilities or Distribution Upgrades. Transmission Owner will refund to Interconnection Customer both the expediting costs and the cost of Network Upgrades, in accordance with Article 11.4 of the GIA, and, as applicable, FCA(s) and/or MPFCA(s). Consequently, the entity with a contractual obligation to construct such Network Upgrades shall be obligated to pay only that portion of the costs of the Network Upgrades that Transmission Owner has not refunded to Interconnection Customer. Payment by that entity shall be due on the date that it would have been due had there been no request for advance construction. Transmission Owner shall forward to Interconnection Customer (with copy to Transmission Provider) the amount paid by the entity with a contractual

obligation to construct the Network Upgrades as payment in full for the outstanding balance owed to Interconnection Customer. Transmission Owner then shall refund to that entity the amount that it paid for the Network Upgrades, in accordance with Article 11.4 of the GIA, and, as applicable, FCA(s) and/or MPFCA(s).

### **12.2.3 Advancing Construction of Network Upgrades that are Part of an Expansion Plan of Transmission Provider**

An Interconnection Customer with a GIA, and, as applicable, FCA(s) and/or MPFCA(s), in order to maintain its In-Service Date, may request that Transmission Owner advance to the extent necessary the completion of Network Upgrades, System Protection Facilities or Distribution Upgrades that: (i) are necessary to support such In-Service Date, including those listed as a contingent element in the Interconnection Customer's GIA, and, as applicable, FCA(s) and/or MPFCA(s); and (ii) would otherwise not be completed, pursuant to an expansion plan of Transmission Provider, in time to support such In-Service Date. Upon such request, Transmission Owner will use Reasonable Efforts to advance the construction of such Network Upgrades, System Protection Facilities or Distribution Upgrades to accommodate such request; provided that Interconnection Customer commits to pay Transmission Owner any associated expediting costs. Interconnection Customer shall be entitled to transmission credits, if any per Attachment FF, for any expediting costs paid associated with the Network Upgrades.

### **12.2.4 Amended Interconnection System Impact and/or Interconnection Facilities Study**

The Interconnection System Impact Study resulting from the Definitive Planning Phase and/or Interconnection Facilities Study(ies) will be amended to determine the facilities necessary to support the requested

In-Service Date. Any amended study will follow the procedures provided in the GIP, as applicable, regarding such study and study cost, and include those transmission and Generating Facilities that are expected to be in service on or before the requested In-Service Date.

## **SECTION 13. MISCELLANEOUS.**

### **13.1 Confidentiality.**

Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by any Party to another Party prior to the execution of a GIA, and, as applicable, FCA(s) and/or MPFCA(s).

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by the receiving Party, the disclosing Party shall provide in writing, the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

#### **13.1.1 Scope**

Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving

Party without restriction by a non-Party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of the GIA, and, as applicable, FCA(s) and/or MPFCA(s); or (6) is required, in accordance with Section 13.1.6, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under the GIA, and, as applicable, FCA(s) and/or MPFCA(s). Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the receiving Party that it no longer is confidential.

#### **13.1.2 Release of Confidential Information**

No Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements) employees, agents, consultants, or to non-parties who may be or considering providing financing to or equity participation with Interconnection Customer or MHVDC Connection Customer, or to potential purchasers or assignees of Interconnection Customer or MHVDC Connection Customer, on a need-to-know basis in connection with these procedures, unless such person has first been advised of the confidentiality provisions of this Section 13.1 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Section 13.1.

#### **13.1.3 Rights**

Each Party retains all rights, title, and interest in the Confidential Information that it discloses to the receiving Party. The disclosure by a Party to the receiving Party of Confidential Information shall not be deemed a waiver by the disclosing Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

#### **13.1.4 No Warranties**

By providing Confidential Information, no Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, no Party obligates itself to provide any particular information or Confidential Information to another Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

#### **13.1.5 Standard of Care**

Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to another Party under these procedures or its regulatory requirements.

#### **13.1.6 Order of Disclosure**

If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires any Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the disclosing Party with prompt notice of such request(s) or requirement(s) so that the disclosing Party may seek an appropriate protective order or waive compliance with the terms of the

GIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

#### **13.1.7 Remedies**

The Parties agree that monetary damages would be inadequate to compensate a Party for another Party's breach of its obligations under this Section 13.1. Each Party accordingly agrees that the disclosing Party shall be entitled to equitable relief, by way of injunction or otherwise, if the receiving Party breaches or threatens to breach its obligations under this Section 13.1, which equitable relief shall be granted without bond or proof of damages, and the breaching Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the breach of this Section 13.1, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Section 13.1.

#### **13.1.8 Disclosure to FERC, Its Staff, or a State.**

Notwithstanding anything in this Section 13.1 to the contrary, and pursuant to 18 C.F.R Section 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from a Party that is otherwise required to be maintained in confidence pursuant to these GIP, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing

the information to FERC or its staff, the Party must, consistent with 18 C.F.R. Section 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. The Party is prohibited from notifying the other Parties prior to the release of the Confidential Information to the Commission or its staff. The Party shall notify the other Parties to the GIA when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time any of the Parties may respond before such information would be made public, pursuant to 18 C.F.R. Section 388.112.

Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner, consistent with applicable state rules and regulations.

**13.1.9** Subject to the exception in Section 13.1.8, any information that a disclosing Party claims is competitively sensitive, commercial or financial information (“Confidential Information”) shall not be disclosed by the receiving Party to any person not employed or retained by the receiving Party, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the disclosing Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under the GIP or as the Regional Transmission Organization or a Local Balancing Authority operator including disclosing the Confidential Information to a subregional, regional or national reliability organization or planning group. The Party asserting confidentiality shall notify the receiving Party in writing of the information that Party claims is confidential. Prior to any disclosures of



that Party's Confidential Information under this subparagraph, or if any non-Party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the receiving Party agrees to promptly notify the disclosing Party in writing and agrees to assert confidentiality and cooperate with the disclosing Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

**13.1.10** This provision shall not apply to any information that was or is hereafter in the public domain (except as a result of a breach of this provision).

**13.1.11** At the Interconnection Customer's or MHVDC Connection Customer's election, Transmission Provider shall cause the party in lawful possession of Confidential Information to, destroy, in a confidential manner, or return the Confidential Information provided at the time of Confidential Information is no longer needed.

**13.2 Delegation of Responsibility.**

Transmission Provider may use the services of subcontractors as it deems appropriate to perform its obligations under the GIP. Transmission Provider shall remain primarily liable to Interconnection Customer or MHVDC Connection Customer for the performance of such subcontractors and compliance with its obligations of the GIP. The subcontractor shall keep all information provided confidential and shall use such information solely for the performance of such obligation for which it was provided and for no other purpose.

**13.3 Obligation for Study Costs.**

Transmission Provider shall charge and Interconnection Customer or MHVDC Connection Customer shall pay the actual costs of the Interconnection Studies. Any difference between the study deposit and the actual cost of the applicable

Interconnection Study shall be paid by or refunded, except as otherwise provided herein, to Interconnection Customer or MHVDC Connection Customer or offset against the cost of any future Interconnection Studies associated with the applicable Interconnection Request prior to beginning of any such future Interconnection Studies. Any invoices for Interconnection Studies shall include a detailed and itemized accounting of the cost of each Interconnection Study. Interconnection Customer or MHVDC Connection Customer shall pay any such undisputed costs within thirty (30) Calendar Days of receipt of an invoice. Transmission Provider shall not be obligated to perform or continue to perform any studies unless Interconnection Customer or MHVDC Connection Customer has paid all undisputed amounts in compliance herewith.

In the event Interconnection Customer's or MHVDC Connection Customer's project is withdrawn, terminated or suspended, Transmission Provider shall not be required to refund any unused portion of the study deposit paid to enter the Definitive Planning Phase that is necessary to account for study costs associated with the project or restudy costs associated with any affected lower-queued projects, any other project with which Interconnection Customer's or MHVDC Connection Customer's project shares responsibility for funding a Common Use Upgrade, or, in the event the project is included in a Group Study, any other affected projects in the Group Study. Unused study deposits from the Definitive Planning Phase that are not otherwise required due to the withdrawals, termination or suspension of the project will be refunded upon Commercial Operation.

#### **13.4 Non-Parties Conducting Studies.**

If (i) at the time of the signing of an Interconnection Study Agreement there is disagreement as to the estimated time to complete an Interconnection Study, (ii) Interconnection Customer or MHVDC Connection Customer receives notice pursuant to the GIP that Transmission Provider will not complete an

Interconnection Study within the applicable timeframe for such Interconnection Study, or (iii) Interconnection Customer or MHVDC Connection Customer receives neither the Interconnection Study nor a notice under the GIP within the applicable timeframe for such Interconnection Study, then Interconnection Customer or MHVDC Connection Customer may require Transmission Provider or its agent to utilize a consultant reasonably acceptable to Interconnection Customer or MHVDC Connection Customer and Transmission Provider to perform such Interconnection Study under the direction of Transmission Provider. At other times, Transmission Provider may also utilize a consultant to perform such Interconnection Study, either in response to a general request of Interconnection Customer or MHVDC Connection Customer, or on its own volition.

In all cases, use of a consultant shall be in accord with Article 26 of the GIA (subcontractors), and, as applicable, FCA(s) and/or MPFCA(s) and limited to situations where Transmission Provider determines that doing so will help maintain or accelerate the study process for the Interconnection Customer's or MHVDC Connection Customer's pending Interconnection Request and not interfere with the Transmission Provider's progress on Interconnection Studies for other pending Interconnection Requests. In cases where Interconnection Customer or MHVDC Connection Customer requests use of a consultant to perform such Interconnection Study, Interconnection Customer or MHVDC Connection Customer and Transmission Provider shall negotiate all of the pertinent terms and conditions, including reimbursement arrangements and the estimated study completion date and study review deadline. Transmission Provider shall convey all workpapers, data bases, study results and all other supporting documentation prepared to date with respect to the Interconnection Request as soon as soon as practicable upon Interconnection Customer's or MHVDC Connection Customer's request subject to the confidentiality provision in Section 13.1. In any case, such consultant contract may be entered into with

either Interconnection Customer or MHVDC Connection Customer or Transmission Provider at the Transmission Provider's discretion. In the case of (iii), Interconnection Customer or MHVDC Connection Customer maintains its right to submit a claim to Dispute Resolution to recover the costs of such consultant study. Such consultant shall be required to comply with the GIP, Article 26 of the GIA (subcontractors), and, as applicable, FCA(s) and/or MPFCA(s), and the relevant Tariff procedures and protocols as would apply if Transmission Provider were to conduct the Interconnection Study and shall use the information provided to it solely for purposes of performing such services and for no other purposes. Transmission Provider shall cooperate with such consultant and Interconnection Customer or MHVDC Connection Customer to complete and issue the Interconnection Study in the shortest reasonable time.

### **13.5 Disputes.**

#### **13.5.1 Submission.**

In the event any Party has a dispute, or asserts a claim, that arises out of or in connection with the GIA, or, as applicable, FCA(s) and/or MPFCA(s), the GIP, or their performance, such Party (the "disputing Party") shall provide the other Parties with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Parties. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other non-disputing Parties' receipt of the Notice of Dispute, such claim or dispute shall be submitted in accordance with the dispute resolution procedures of the Tariff. In the event the designated representatives are able to resolve the claim or dispute within the above-described thirty (30) Calendar Day

period, the disputing Party shall submit a written explanation of the resolution to the non-disputing Parties and shall obtain the written acknowledgement and acceptance from each non-disputing Party.

Disputes received after the GIA, or, as applicable, FCA(s) and/or MPFCA(s) has been tendered for execution pursuant to section 11.1 of this GIP will not affect any applicable deadline pursuant to Section 11.2 of this GIP.

### **13.5.2 Non-binding Dispute Resolution**

If a Party has submitted a Notice of Dispute pursuant to section 13.5.1, and the Parties are unable to resolve the claim or dispute through unassisted or assisted negotiations within the thirty (30) Calendar Days provided in that section, and the Parties cannot reach mutual agreement to pursue binding dispute resolution, a Party may request that Transmission Provider engage in non-binding dispute resolution pursuant to this section by providing written notice to the Transmission Provider and other Party (“Request for Non-binding Dispute Resolution”). Such request shall not require the agreement of any other Party to proceed. The process set forth in this section shall serve as an alternative to, and not a replacement of, any other dispute resolution procedures contained within Attachment HH or otherwise authorized by the Tariff. Within 30 days of receipt of a Request for Non-binding Dispute Resolution pursuant to this Section, the Transmission Provider shall appoint a neutral decision-maker that is an independent subcontractor that shall not have any current or past substantial business or financial relationships with either Party. Unless otherwise agreed by the Parties, the decision-maker shall render a decision within sixty (60) Calendar Days of appointment and shall notify the Parties in writing of such decision and reasons therefore. Such decision-

maker shall be authorized only to interpret and apply the provisions of the GIP, GIA, and as applicable, FCA(s) and/or MPFCA(s), and shall have no power to modify or change any provision of the GIP, GIA, FCA(s) or MPFCA(s) in any manner. The result reached in this process is not binding, but, unless otherwise agreed, the Parties may cite the record and decision in this Nonbinding Dispute Resolution Process in future dispute resolution processes under the Tariff, including in arbitration, or in a Federal Power Act section 206 complaint. Each Party shall be responsible for its own costs incurred during the process and the cost of the decision-maker shall be divided equally among each Party to the dispute. Non-binding dispute resolutions conducted pursuant to this section shall adhere to any procedural and timing requirements set forth in the Generator Interconnection Business Practices Manual unless all parties to such dispute agree to modify such rules.

### **13.6 Local Furnishing Bonds.**

#### **13.6.1 Transmission Owners That Own Facilities Financed by Local Furnishing Bonds.**

This provision is applicable only to a Transmission Owner that has financed facilities for the local furnishing of electric energy with tax-exempt bonds, as described in Section 142(f) of the Internal Revenue Code (“local furnishing bonds”). Notwithstanding any other provision of the GIP or GIA, and, as applicable, FCA(s) and/or MPFCA(s), Transmission Provider and Transmission Owner shall not be required to provide Interconnection Service to Interconnection Customer or MHVDC Connection Customer pursuant to this GIA and GIP if the provision of such Transmission Service would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance Transmission Owner’s facilities that would be used in providing such Interconnection Service.

### **13.6.2 Alternative Procedures for Requesting Interconnection Service.**

If Transmission Provider determines that the provision of Interconnection Service requested by Interconnection Customer or MHVDC Connection Customer could jeopardize the tax-exempt status of any local furnishing bond(s) used to finance Transmission Owner's facilities that would be used in providing such Interconnection Service. Transmission Provider shall notify Transmission Owner who then shall confirm the tax-exempt status of any local furnishing bond(s) used by Transmission Owner and shall advise Interconnection Customer or MHVDC Connection Customer and Transmission Provider within thirty (30) Calendar Days of Transmission Provider's notice to Transmission Owner. Interconnection Customer or MHVDC Connection Customer thereafter may renew its request for interconnection using the process specified in Article 5.2(ii) of the Transmission Provider's Tariff.

## **SECTION 14. FAST TRACK PROCESS.**

### **14.1 Applicability.**

The Fast Track Process is available to an Interconnection Customer proposing to interconnect its Small Generating Facility with the Transmission System if the Small Generating Facility is no larger than 5 MW and if the Interconnection Customer's proposed Small Generating Facility meets the codes, standards, and certification requirements of Appendix 3 of this GIP, or Transmission Provider has reviewed the design or tested the proposed Small Generating Facility and is satisfied that it is safe to operate.

#### **14.1.1 Capacity of the Small Generating Facility**

The Interconnection Request shall be evaluated using the maximum capacity that the Small Generating Facility is capable of injecting into the Transmission

Provider's electric system. However, if the maximum capacity that the Small Generating Facility is capable of injecting into the Transmission Provider's electric system is limited (e.g., through use of a control system, power relay(s), or other similar device settings or adjustments), then the Interconnection Customer must obtain the Transmission Provider's agreement, with such agreement not to be unreasonably withheld, that the manner in which the Interconnection Customer proposes to implement such a limit will not adversely affect the safety and reliability of the Transmission Provider's system. If the Transmission Provider does not so agree, then the Interconnection Request must be withdrawn or revised to specify the maximum capacity that the Small Generating Facility is capable of injecting into the Transmission Provider's electric system without such limitations. Furthermore, nothing in this section shall prevent a Transmission Provider from considering an output higher than the limited output, if appropriate, when evaluating system protection impacts.

## **14.2 Initial Review.**

Within fifteen (15) Business Days after Transmission Provider notifies Interconnection Customer it has received a complete Interconnection Request, Transmission Provider shall perform an initial review using the screens set forth below, shall notify Interconnection Customer of the results, and include with the notification copies of the analysis and data underlying the Transmission Provider's determinations under the screens.

### **14.2.1 Screens.**

**14.2.1.1** The proposed Small Generating Facility's Point of Interconnection must be on a portion of the Transmission System or Distribution System that is subject to the Transmission Provider's control under the Tariff.



**14.2.1.2** For interconnection of a proposed Small Generating Facility to a radial distribution circuit, the aggregated generation, including the proposed Small Generating Facility, on the circuit shall not exceed fifteen percent (15%) of the line section annual peak load as most recently measured at the relevant substation. A line section is that portion of a Transmission Provider controlled electric system connected to a customer bounded by automatic sectionalizing devices or the end of the distribution line.

**14.2.1.3** For interconnection of a proposed Small Generating Facility to the load side of spot network protectors, the proposed Small Generating Facility must use an inverter-based equipment package and, together with the aggregated other inverter-based generation, shall not exceed the smaller of five percent (5%) of a spot network's maximum load or 50 kW.

**14.2.1.4** The proposed Small Generating Facility, in aggregation with other generation on the distribution circuit, shall not contribute more than ten percent (10%) to the distribution circuit's maximum fault current at the point on the high voltage (primary) level nearest the proposed point of change of ownership.

**14.2.1.5** The proposed Small Generating Facility, in aggregate with other generation on the distribution circuit, shall not cause any distribution protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or Interconnection Customer equipment on the system to exceed eighty-seven and one half percent (87.5%) of the short circuit interrupting capability; nor shall the interconnection proposed for a circuit that already exceeds eighty-seven and one half (87.5%) of

the short circuit interrupting capability.

**14.2.1.6** Using the table below, determine the type of interconnection to a primary distribution line. This screen includes a review of the type of electrical service provided to the Interconnecting Customer, including line configuration and the transformer connection to limit the potential for creating over-voltages on the Transmission Provider's electric power system due to a loss of ground during the operating time of any anti-islanding function.

| <b>Primary Distribution Line Type</b> | <b>Type of Interconnection to Primary Distribution Line</b>   | <b>Result/Criteria</b> |
|---------------------------------------|---------------------------------------------------------------|------------------------|
| Three-phase, three wire               | 3-phase or single phase, phase-to-phase                       | Pass screen            |
| Three-phase, four wire                | Effectively-grounded 3 phase or Single-phase, line-to-neutral | Pass screen            |

**14.2.1.7** If the proposed Small Generating Facility is to be interconnected on single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed Small Generating Facility, shall not exceed 20 kW.

**14.2.1.8** If the proposed Small Generating Facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than twenty percent (20%) of the nameplate rating of the service transformer.

**14.2.1.9** The Small Generating Facility, in aggregate with other generation interconnected to the transmission side of a substation transformer feeding the circuit where the Small Generating Facility proposes to interconnect shall not exceed 10 MW in an area where there are

known, or posted, transient stability limitations to generating units located in the general electrical vicinity (*e.g.*, three or four transmission busses from the Point of Interconnection).

**14.2.1.10** No construction of facilities by Transmission Provider on its own system shall be required to accommodate the Small Generating Facility.

**14.2.2** If the proposed interconnection passes the screens, the Interconnection Request shall be approved and Transmission Provider will provide Interconnection Customer an executable interconnection agreement within five (5) Business Days after the determination.

**14.2.3** If the proposed interconnection fails the screens, but Transmission Provider determines that the Small Generating Facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards, Transmission Provider shall provide Interconnection Customer an executable interconnection agreement within five (5) Business Days after the determination.

**14.2.4** If the proposed interconnection fails the screens, but Transmission Provider does not or cannot determine from the initial review that the Small Generating Facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards unless Interconnection Customer is willing to consider minor modifications or further study, Transmission Provider shall provide Interconnection Customer with the opportunity to attend a customer options meeting.

### **14.3 Customer Options Meeting.**

If Transmission Provider determines the Interconnection Request cannot be

approved without (1) minor modifications at minimal cost, (2) a supplemental study or other additional studies or actions, or (3) incurring significant cost to address safety, reliability, or power quality problems, the Transmission Provider shall notify Interconnection Customer of that determination within five (5) Business Days after that determination and provide copies of all data and analyses underlying its conclusion. Within ten (10) Business Days of the Transmission Provider's determination, Transmission Provider shall offer to convene a customer options meeting with Transmission Provider to review possible Interconnection Customer facility modifications or the screen analysis and related results, to determine what further steps are needed to permit the Small Generating Facility to be connected safely and reliably. At the time of notification of the Transmission Provider's determination, or at the customer options meeting, Transmission Provider shall:

**14.3.1** Offer to perform facility modifications or minor modifications to the Transmission System (*e.g.*, changing meters, fuses, relay settings) and provide a non-binding good faith estimate of the limited cost to make such modifications to the Transmission System. If the Interconnection Customer agrees to pay for the modifications to the Transmission System, the Transmission Provider will provide the Interconnection Customer with an executable interconnection agreement within ten (10) Business Days of the customer options meeting; or

**14.3.2** Offer to perform a supplemental review in accordance with Section 14.4 and provide a non-binding good faith estimate of the costs of such review; or

**14.3.3** Obtain the Interconnection Customer's agreement to continue evaluating the Interconnection Request under the Attachment X Generator Interconnection Procedures.

#### **14.4 Supplemental Review.**

**14.4.1** To accept the offer of a supplemental review, Interconnection Customer shall agree in writing and submit a deposit for the estimated costs of the supplemental review in the amount of the Transmission Provider's good faith estimate of the costs of such review, both within 15 Business Days of the offer. If the written agreement and deposit have not been received by the Transmission Provider within that timeframe, the Interconnection Request shall continue to be evaluated under the Attachment X Generator Interconnection Procedures unless it is withdrawn by the Interconnection Customer.

**14.4.2** The Interconnection Customer may specify the order in which the Transmission Provider will complete the screens in section 14.4.4.

**14.4.3** The Interconnection Customer shall be responsible for the Transmission Provider's actual costs for conducting the supplemental review. The Interconnection Customer must pay any review costs that exceed the deposit within 20 Business Days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced costs, the Transmission Provider will return such excess within 20 Business Days of the invoice without interest.

**14.4.4** Within thirty (30) Business Days following receipt of the deposit for a supplemental review, the Transmission Provider shall (1) perform a supplemental review using the screens set forth below; (2) notify in writing the Interconnection Customer of the results; and (3) include with the notification copies of the analysis and data underlying the Transmission Provider's determinations under the screens. Unless the

Interconnection Customer provided instructions for how to respond to the failure of any of the supplemental review screens below at the time the Interconnection Customer accepted the offer of supplemental review, the Transmission Provider shall notify the Interconnection Customer following the failure of any of the screens, or if it is unable to perform the screen in section 14.4.4.1, within two Business Days of making such determination to obtain the Interconnection Customer's permission to: (1) continue evaluating the proposed interconnection under this section 14.4.4; (2) terminate the supplemental review and continue evaluating the Small Generating Facility (the Attachment X Generator Interconnection Procedures); or (3) terminate the supplemental review upon withdrawal of the Interconnection Request by the Interconnection Customer.

**14.4.4.1** Minimum Load Screen: Where 12 months of line section minimum load data (including onsite load but not station service load served by the proposed Small Generating Facility) are available, can be calculated, can be estimated from existing data, or determined from a power flow model, the aggregate Generating Facility capacity on the line section is less than 100% of the minimum load for all line sections bounded by automatic sectionalizing devices upstream of the proposed Small Generating Facility. If minimum load data is not available, or cannot be calculated, estimated or determined, the Transmission Provider shall include the reason(s) that it is unable to calculate, estimate or determine minimum load in its supplemental review results notification under section 14.4.4.

**14.4.4.1.1** The type of generation used by the proposed Small Generating Facility will be taken into account when calculating, estimating, or determining circuit or line

section minimum load relevant for the application of screen 14.4.1.1. Solar photovoltaic (PV) generation systems with no battery storage use daytime minimum load (i.e. 10 a.m. to 4 p.m. for fixed panel systems and 8 a.m. to 6 p.m. for PV systems utilizing tracking systems), while all other generation uses absolute minimum load.

**14.4.4.1.2** When this screen is being applied to a Small Generating Facility that serves some station service load, only the net injection into the Transmission Provider's electric system will be considered as part of the aggregate generation.

**14.4.4.1.3** Transmission Provider will not consider as part of the aggregate generation for purposes of this screen generating facility capacity known to be already reflected in the minimum load data.

**14.4.4.2** Voltage and Power Quality Screen: In aggregate with existing generation on the line section: (1) the voltage regulation on the line section can be maintained in compliance with relevant requirements under all system conditions; (2) the voltage fluctuation is within acceptable limits as defined by Institute of Electrical and Electronics Engineers (IEEE) Standard 1453, or utility practice similar to IEEE Standard 1453; and (3) the harmonic levels meet IEEE Standard 519 limits.

**14.4.4.3** Safety and Reliability Screen: The location of the proposed Small Generating Facility and the aggregate generation capacity

on the line section do not create impacts to safety or reliability that cannot be adequately addressed without application of the Study Process. The Transmission Provider shall give due consideration to the following and other factors in determining potential impacts to safety and reliability in applying this screen.

**14.4.4.3.1** Whether the line section has significant minimum loading levels dominated by a small number of customers (e.g., several large commercial customers).

**14.4.4.3.2** Whether the loading along the line section is uniform or even.

**14.4.4.3.3** Whether the proposed Small Generating Facility is located in close proximity to the substation (i.e., less than 2.5 electrical circuit miles), and whether the line section from the substation to the Point of Interconnection is a Mainline rated for normal and emergency ampacity.

**14.4.4.3.4** Whether the proposed Small Generating Facility incorporates a time delay function to prevent reconnection of the generator to the system until system voltage and frequency are within normal limits for a prescribed time.

**14.4.4.3.5** Whether operational flexibility is reduced by the proposed Small Generating Facility, such that transfer of the line section(s) of the Small Generating Facility to a neighboring distribution circuit/substation may trigger



overloads or voltage issues.

**14.4.4.3.6** Whether the proposed Small Generating Facility employs equipment or systems certified by a recognized standards organization to address technical issues such as, but not limited to, islanding, reverse power flow, or voltage quality.

**14.4.5** If the proposed interconnection passes the supplemental screens in sections 14.4.4.1, 14.4.4.2, and 14.4.4.3 above, the Interconnection Request shall be approved and the Transmission Provider will provide the Interconnection Customer with an executable interconnection agreement within the timeframes established in sections 14.4.5.1 and 14.4.5.2 below. If the proposed interconnection fails any of the supplemental review screens and the Interconnection Customer does not withdraw its Interconnection Request, it shall continue to be evaluated under the Attachment X Generator Interconnection Procedures consistent with section 14.4.5.3 below.

**14.4.5.1** If the proposed interconnection passes the supplemental screens in sections 14.4.1.1, 14.4.1.2, and 14.4.1.3 above and does not require construction of facilities by the Transmission Provider on its own system, the interconnection agreement shall be provided within ten Business Days after the notification of the supplemental review results.

**14.4.5.2** If interconnection facilities or minor modifications to the Transmission Provider's system are required for the proposed interconnection to pass the supplemental screens in sections 14.4.1.1, 14.4.1.2, and 14.4.1.3 above, and the Interconnection

Customer agrees to pay for the modifications to the Transmission Provider's electric system, the interconnection agreement, along with a non-binding good faith estimate for the interconnection facilities and/or minor modifications, shall be provided to the Interconnection Customer within 15 Business Days after receiving written notification of the supplemental review results.

**14.4.5.3** If the proposed interconnection would require more than interconnection facilities or minor modifications to the Transmission Provider's system to pass the supplemental screens in sections 14.4.1.1, 14.4.1.2, and 14.4.1.3 above, the Transmission Provider shall notify the Interconnection Customer, at the same time it notifies the Interconnection Customer with the supplemental review results, that the Interconnection Request shall be evaluated under the Attachment X Generator Interconnection Procedures unless the Interconnection Customer withdraws its Small Generating Facility.

## **SECTION 15. PROVISIONS FOR CONNECTION TO HVDC FACILITIES SUBJECT TO SECTION 27A OF THE TARIFF.**

Interconnection Requests to HVDC Facilities that are subject to Section 27A of the Tariff shall follow the same process as detailed in Sections 2 through 13 of the GIP, except as specified in this Section 15.

### **15.1 Availability of ER Interconnection Service and NR Interconnection Service for HVDC Facilities subject to Section 27A of this Tariff.**

ER Interconnection Service and NR Interconnection Service are both available for HVDC Facilities subject to Section 27A of this Tariff. In the case where

Interconnection Customer identified a point-to-point transmission service request under Section 27A of this Tariff, NR Interconnection Service will qualify the Generating Facility to be designated as a Network Resource so long as (and to the extent that) HVDC Service is confirmed across the HVDC Facilities. NR Interconnection Service will be limited to the confirmed megawatts in the transmission service request. When applicable, the HVDC Service requirement will be listed in Appendix A of the GIA, and such listing will be added during the negotiation phase of the document, as set forth in Section 11.2 of the GIP.

## **SECTION 16. PROVISIONS FOR OBTAINING INJECTION RIGHTS AND THEIR CONVERSION TO EXTERNAL NETWORK RESOURCE INTERCONNECTION SERVICE**

### **16.1 Request for Injection Rights**

MHDVC Connection Customers electing to request Injection Rights on the Transmission System pursuant to the procedures set forth in Section 3.2.3 of Attachment GGG to the Tariff shall make such requests for Injection Rights by submitting to Transmission Provider a completed Interconnection Request in the manner specified by the Generator Interconnection Business Practices Manual (BPM-015). The MHDVC Connection Customer must select “Injection Rights” in Appendix 1 and shall include all other relevant information required by Appendix 1 and its attachments. Requests for Injection Rights shall be studied and granted by Transmission Provider pursuant to the terms and conditions of the GIP, including requisite milestones and study deposits within the prescribed schedule deadlines.

Injection Rights serve as a pre-certification of the Transmission System’s capability to receive capacity and energy from the MHDVC Transmission Line at the requested Point of Connection, in the specified MW quantity, without degrading the reliability of the Transmission System. Injection Rights do not convey transmission service or Interconnection Service to the MHDVC Connection Customer or any other entity. Any such Injection Rights granted by

Transmission Provider, and any increases or reductions to those Injection Rights, shall be documented in Appendix F to the Transmission Connection Agreement. Requests for Injection Rights will be treated similar to requests for Interconnection Service from a queue priority perspective.

## **16.2 Conversion of Injection Rights to External Network Resource Interconnection Service**

Before an Interconnection Customer with an Existing Generating Facility that is external to the Transmission System may offer energy or capacity across the MHVDC Transmission Line into the MISO markets, the Injection Rights granted pursuant to Section 3.2.3 of Attachment GGG to the Tariff and this Section 16 must be converted to external Network Resource Interconnection Service and transferred to that Interconnection Customer. Upon the request of an Interconnection Customer with an Existing Generating Facility for external Network Resource Interconnection Service via the MHVDC Transmission Line, Transmission Provider will convert the Injection Rights to external Network Resource Interconnection Service in an amount up to, but not greater than, the capacity of the MHVDC Transmission Line, and transfer that amount of external Network Resource Interconnection Service to that Interconnection Customer, subject to the conditions set forth below.

Prior to effectuating this conversion, Transmission Provider must receive the following information:

- (a) from the Interconnection Customer seeking conversion:
  - (i) a request for external Network Resource Interconnection Service pursuant to Appendix 1 of Attachment X, by including the requested MW quantity to be converted and transferred;
  - (ii) documentation of the agreement between the Interconnection Customer and the MHVDC Connection Customer authorizing the conversion and transfer of the requested amount of Injection Rights;
  - (iii) documentation that the Interconnection Customer has long-term firm

- transmission service from the Existing Generating Facility to the Point of Connection, including any transmission service agreements over the MHVDC Transmission Line, that complies with the requirements included in the Service Agreement for Network Resources Interconnection Service for an Existing Generating Facility as set forth in Appendix 13 of Attachment X; and
- (b) from the MHVDC Connection Customer that holds the Injection Rights being converted:
- (i) documentation of the MHVDC Connection Customer's procedures for the allocation of Injection Rights to Interconnection Customers, which shall be non-discriminatory and consistent with the Commission's approval of the MHVDC Connection Customer's right to charge negotiated (market based) rates for service on the applicable MHVDC Transmission Line.

Upon receipt of the required information, Transmission Provider will convert the requested amount of the MHVDC Connection Customer's Injection Rights into external Network Resource Interconnection Service and grant the external Network Resource Interconnection Service to the Interconnection Customer, subject to the Interconnection Customer executing the Service Agreement for external Network Resource Interconnection Service for an Existing Generating Facility as set forth in Appendix 13 to Attachment X. All terms and conditions of such Service Agreement for external Network Resource Interconnection Service for an Existing Generating Facility and all the terms and conditions of Attachment X, including the rights to termination of Interconnection Service, shall apply to the Interconnection Customer's external Network Resource Interconnection Service granted under this Article 16. After conversion of the Injection Rights, Transmission Provider shall document any remaining Injection Rights in Appendix F of the MHVDC Connection Customer's Transmission Connection Agreement and shall post the Interconnection Customer's external Network Resource Interconnection Service pursuant to the posting guidelines contained in Attachment X.

A request by an Interconnection Customer for a conversion of Injection Rights into external Network Resource Interconnection Service pursuant to this Section 16.2, shall not

require any additional studies in the Definitive Planning Phase to the extent such studies have been performed as part of the MHVDC Connection Customer's request for Injection Rights. To the extent the MHVDC Connection Customer made the Definitive Planning Phase Milestone Payments (M2, M3, and M4) required in connection with its request for Injection Rights and evaluation, an Interconnection Customer obtaining a conversion to external Network Resource Interconnection Service based on the same request for Injection Rights shall not be required to make any additional Milestone Payments to Transmission Provider.

Any conversion to external Network Resource Interconnection Service under this Section 16.2 shall occur within three (3) years from the Commercial Operation Date for the MHVDC Transmission Line, as set forth in Appendix C of the Transmission Connection Agreement. Failure to convert any amount of the Injection Rights to external Network Resource Interconnection Service within the time period specified above shall result in termination of Injection Rights with respect to such unconverted amount. In the event any external Network Resource Interconnection Service obtained pursuant to this Section 16 terminates more than three (3) years after the Commercial Operation Date for the MHVDC Transmission Line, as set forth in Appendix C of the Transmission Connection Agreement, such terminated external Network Resource Interconnection Service may not revert back to Injection Rights.

## **SECTION 17. FACILITIES SERVICE AGREEMENT.**

In the event that the Transmission Owner elects to fund the capital for the Network Upgrades and the Transmission Owner's System Protection Facilities, the Interconnection Customer, Transmission Owner, and Transmission Provider shall enter into a Facilities Service Agreement to memorialize the terms of repayment for those Network Upgrades and Transmission Owner's System Protection Facilities that the Transmission Owner elected to self-fund. The Facilities Service Agreement shall take the form of the *pro forma* Facilities Service Agreement that is included as Appendix 14 of Attachment X of the MISO Tariff. The Facilities Service Agreement shall be subject to the terms and conditions of Attachment X, including the rights to termination of Interconnection Service. The Interconnection Customer and/or the

Transmission Owner may request in writing that Transmission Provider file the Facilities Service Agreement with FERC in unexecuted form.

## APPENDICES TO GIP

|             |                                                                                                                                                                            |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APPENDIX 1  | INTERCONNECTION REQUEST FOR A GENERATING FACILITY                                                                                                                          |
| APPENDIX 2  | RESERVED                                                                                                                                                                   |
| APPENDIX 3  | CERTIFICATION CODES AND STANDARDS AND CERTIFICATION OF SMALL GENERATOR EQUIPMENT PACKAGES                                                                                  |
| APPENDIX 4  | APPLICATION, PROCEDURES, AND TERMS AND CONDITIONS FOR INTERCONNECTING A CERTIFIED INVERTER-BASED SMALL GENERATING FACILITY NO LARGER THAN 10 KW (“10 KW INVERTER PROCESS”) |
| APPENDIX 5  | OPTIONAL INTERCONNECTION STUDY AGREEMENT                                                                                                                                   |
| APPENDIX 6  | STANDARD GENERATOR INTERCONNECTION AGREEMENT                                                                                                                               |
| APPENDIX 7  | INTERCONNECTION PROCEDURES FOR A WIND GENERATING PLANT                                                                                                                     |
| APPENDIX 8  | FACILITIES CONSTRUCTION AGREEMENT                                                                                                                                          |
| APPENDIX 9  | MULTI-PARTY FACILITIES CONSTRUCTION AGREEMENT                                                                                                                              |
| APPENDIX 10 | INTERCONNECTION STUDY MODEL REVIEW FORM                                                                                                                                    |
| APPENDIX 11 | MONITORING AND CONSENT AGREEMENT                                                                                                                                           |
| APPENDIX 12 | ENERGY DISPLACEMENT AGREEMENT                                                                                                                                              |
| APPENDIX 13 | EXTERNAL NETWORK RESOURCE INTERCONNECTION SERVICE AGREEMENT                                                                                                                |
| APPENDIX 14 | FACILITIES SERVICE AGREEMENT                                                                                                                                               |



**APPENDIX 1 TO GIP  
INTERCONNECTION REQUEST**

1. [The undersigned Interconnection Customer submits this request to interconnect its Generating Facility, located in \_\_\_\_\_ County, [\_\_\_\_\_ State], with the Transmission System pursuant to the Tariff.] or;

[The undersigned MHVDC Connection Customer submits this request for Injection Rights for its MHVDC Transmission Line, located in \_\_\_\_\_ County, [\_\_\_\_\_ State], with the Transmission System pursuant to a Tariff.];

2. This Interconnection Request is for (check one):

- ☐ Proposed new Generating Facility
- ☐ Increase in the generating capacity or a Material Modification of an Existing Generating Facility
- ☐ Replacement of Existing Generating Facility with no increase in capacity
- ☐ Interconnection Request made in connection with a Generating Facility proposed for inclusion in a resource solicitation process
- ☐ Network Resource Interconnection Service for a Generating Facility in Commercial Operation or with an executed GIA
- ☐ Generating Facility requesting Surplus Interconnection Service
- ☐ Fast Track Process for Small Generating Facility
- ☐ Injection Rights associated with a new MHVDC Transmission Line;
- ☐ [Expedited Resource Addition Study](#)

3. The type of interconnection service requested is (check one as appropriate):

- ☐ Energy Resource Interconnection Service only
- ☐ Network Resource Interconnection Service (includes Energy Resource Interconnection Service)

- \_\_\_\_\_ Network Resource Interconnection Service only for an Existing Generating Facility
- \_\_\_\_\_ Network Resource Interconnection Service in connection with a resource solicitation process
- \_\_\_\_\_ Surplus Interconnection Service
- \_\_\_\_\_ External Network Resource Interconnection Service (E-NRIS) for projects connecting to a Distribution System or non-MISO transmission system;

4. Interconnection Customer provides the following definitive information:

- a. Specific address or location (use closest street or intersection if no address is available) for the proposed new Generating Facility site or, in the case of an Existing Generating Facility, the name and specific location of the Existing Generating Facility (provide a site map and GPS coordinates);

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

GPS Coordinates: \_\_\_\_\_ N \_\_\_\_\_ W

- b. The following specific information related to the Interconnection Service Requested:

| Required Information Related to Interconnection Request       |                                |                                | Additional Information/Documentation                         |
|---------------------------------------------------------------|--------------------------------|--------------------------------|--------------------------------------------------------------|
| Installed Generating Facility Capacity (Maximum Gross Output) | Summer (MW/MVAR):<br>____/____ | Winter (MW/MVAR):<br>____/____ |                                                              |
| Existing Interconnection Service, if any                      | ERIS: (MW/MVAR):<br>____/____  | NRIS: (MW/MVAR):<br>____/____  | Provide GIA, and SIS report for Existing Generating Facility |

|                                                                                                                  |                                                                                     |                                                                                     |                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| New Interconnection Service or Increase in Existing Interconnection Service Requested (Maximum Injection at POI) | ERIS (New) (MW/MVAR):<br>____/____<br>or<br>ERIS (Increase) (MW/MVAR):<br>____/____ | NRIS (New) (MW/MVAR):<br>____/____<br>or<br>NRIS (Increase) (MW/MVAR):<br>____/____ | Requested total ERIS must be less than or equal to Installed Generating Facility Capacity. Requested total NRIS must be less than or equal to total requested ERIS. |
| Station Service Load, if any                                                                                     | Summer (MW/MVAR):<br>____/____                                                      | Winter (MW/MVAR):<br>____/____                                                      |                                                                                                                                                                     |
| Surplus Interconnection Service Requested (No increase in Existing Interconnection Service)                      | Surplus Interconnection Service (MW/MVAR):<br>____/____                             |                                                                                     | SIS report for existing unit and written statement pursuant to Section 6 of this Interconnection Request                                                            |
| “NRIS only”/ External NRIS                                                                                       | NRIS Only (MW/MVAR):<br>____/____                                                   | External-NRIS (MW/MVAR):<br>____/____                                               | CP Node:<br>_____<br>Point of Interconnection:<br>_____<br>Bus Number in Power Flow Models: _____                                                                   |

- c. A description of the equipment configuration (i.e. Number of generators/inverters and number of Intermediate Step-up transformers, is this phase 2 of an existing project, etc.) for the entire Generating Facility:
- d. Generating Facility Commercial Operation Date \_\_\_\_\_,  
Synchronization Date \_\_\_\_\_, and required Interconnection Facilities  
In-Service Date \_\_\_\_\_ by day, month, and year;

- e. Name, address, telephone number, and e-mail address of the Interconnection Customer. If the Interconnection Customer has designated an agent, include its agent's contact person:

Interconnection Customer

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Interconnection Customer's Agent (if applicable)

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Agent's contact person: \_\_\_\_\_;

- f. An Internal Revenue Service Form W-9 or comparable state-issued document for the Interconnection Customer submitting this Interconnection Request;
- g. As applicable, documentation proving the existence of a legally-binding relationship between the Interconnection Customer and any entity with a vested interest in this Interconnection Request (*e.g.*, a parent company, a subsidiary, or financing company acting as agent for the Interconnection Customer) that the Interconnection Customer reasonably anticipates may claim rights or authority under this Interconnection Request. Such documentation may include but is not limited to the Interconnection Customer's Articles of Organization and Operating Agreement describing the nature of the legally-binding relationship;

- h. Interconnection Customer's banking information, or the banking information of any entity with a legally-binding relationship to the Interconnection Customer, in accordance with Section 4(f) of this Appendix 1, that wishes to make payments and receive refunds on behalf of the Interconnection Customer and in association with this Interconnection Request;

Bank Name: \_\_\_\_\_

Account Holder Name: \_\_\_\_\_

ABA number: \_\_\_\_\_

Account Number: \_\_\_\_\_

Company: \_\_\_\_\_

Tax Reporting Name: \_\_\_\_\_

Tax ID: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

- i. Location of the proposed Point of Interconnection including the substation name or the name of the line to be tapped (including the voltage), the estimated distance from the substation endpoints of a line tap, address, and GPS coordinates (Not applicable to External NRIS Applications)

POI substation name: \_\_\_\_\_ or

POI line name: \_\_\_\_\_ (endpoint 1) to \_\_\_\_\_ (endpoint 2)

POI Distance from endpoint 1: \_\_\_\_\_ miles

POI Distance from endpoint 2: \_\_\_\_\_ miles

Interconnection voltage: \_\_\_\_\_ kV

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

GPS Coordinates: \_\_\_\_\_ N \_\_\_\_\_ W

j. Generating Facility Data (set forth in Attachment A);

k. Fuel Source(s) [Check all that are applicable]:

- |                                      |                                  |                                                       |
|--------------------------------------|----------------------------------|-------------------------------------------------------|
| <input type="checkbox"/> Coal        | <input type="checkbox"/> Nuclear | <input type="checkbox"/> Storage, specify type: _____ |
| <input type="checkbox"/> Hydro       | <input type="checkbox"/> Oil     | <input type="checkbox"/> Wind                         |
| <input type="checkbox"/> Natural Gas | <input type="checkbox"/> Solar   | <input type="checkbox"/> Other, specify type: _____   |

Describe the configuration of Generating Facility utilizing more than one fuel source:

\_\_\_\_\_  
\_\_\_\_\_;

If the proposed Generating Facility includes storage device(s), indicate whether the storage device(s) will be charged using energy from the Transmission System at any time: Yes \_\_\_\_\_ or No \_\_\_\_\_. If Yes, specify maximum MW that will be withdrawn from the Transmission System at any time: \_\_\_\_\_ MW;

l. Qualifying Facility status including an indication of state and / or federal qualifications that have been met (optional);

m. If this Interconnection Request is made in connection with a resource solicitation process, attach a copy of a written agreement assigning the Interconnection Customer's rights under the GIP to the solicitor of the process and granting the solicitor the right to act as the Interconnection Customer's agent for all purposes in the GIP;

- n. If this Interconnection Request is for Surplus Interconnection Service, attach a copy of the MISO Interconnection System Impact Study performed for the Existing Generating Facility when the Generating Facility was originally proposed for interconnection to the MISO Transmission System or, for Generating Facilities studied under a predecessor transmission provider's interconnection process, the original system impact study performed at the time such Generating Facility was originally studied for interconnection to the transmission system. If no such study is available, indicate this by checking the appropriate box below.
- ☐ Study Attached (if this box is checked, a copy of the study must be included as an attachment to this Interconnection Request); or
  - ☐ No previous study is available;
- o. Energy Displacement Agreement (Appendix 12) and Monitoring and Consent Agreement (Appendix 11). In order for a Surplus Interconnection Request to remain valid, the Energy Displacement Agreement and Monitoring and Consent Agreement must be submitted prior to the conclusion of Generator Interconnection Agreement negotiations, pursuant to Section 11 of this GIP;
- p. Primary frequency response operating range for electric storage resources;
- q. If this Interconnection Request is for Generating Facility Replacement, Interconnection Customer must submit:
- Planned or Actual date of cessation of operation for the Existing Generating Facility: \_\_\_\_\_
- Expected Commercial Operation Date for the Replacement Generating Facility: \_\_\_\_\_
- \_\_\_\_\_ (check if applicable) Interconnection Customer requests MISO to perform Attachment Y equivalent study in the Reliability Assessment Study;

- r. For Interconnection Requests proposing to share Interconnection Customer Interconnection Facilities with another Interconnection Request or existing project, a consent agreement meeting the requirements of Section 3.3.1.4 of the GIP and the Generator Interconnection Business Practices Manual executed by all Interconnection Customers affiliated with projects that propose to connect, or are connected, to the shared Interconnection Customer Interconnection Facilities.

\_\_\_\_\_ (check if applicable) Interconnection Customer proposes to share Interconnection Customer Interconnection Facilities with another Interconnection Request or existing project and has attached a fully executed consent agreement to this Interconnection Request.

If Interconnection Customer Interconnection Facilities will be shared, the MISO Project Number(s) of other Existing Generating Facilities or Interconnection Requests with which Interconnection Customer Interconnection Facilities will be shared shall be listed below. If no project number is available for any of the other Generating Facilities with which Interconnection Customer Interconnection Facilities will be shared, state the name of the Interconnection Customer and describe the applicable Generating Facilities below.

- \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- s. For Interconnection Requests seeking processing through an Expedited Resource Addition Study, identify the resource adequacy deficiency (i.e. the county and state, the associated electrical bus location(s), the Local Resource Zone, and the peak MW demand of the load and/or reliability need) that the Generating Facility claims to address, the RERRA (if applicable), and include the location of the Generating Facility (i.e. county and state, the associated electrical bus location(s), and the Local Resource Zone).



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5. Interconnection Customer shall provide the applicable deposit amount as specified in the GIP;
6. If this Interconnection Request is submitted to request Surplus Interconnection Service, the undersigned Interconnection Customer shall supply a written statement from an officer of the Existing Generating Facility that is associated with this request for Surplus Interconnection Service that confirms the following:
- (i.) the amount of Surplus Interconnection Service made available by the Interconnection Customer of the Existing Generating Facility;
  - (ii.) the type of Interconnection Service (i.e., ERIS or NRIS) made available by the Interconnection Customer for the Existing Generating Facility in accordance with the provisions in Section 3.2.3.1 of GIP (Attachment X); and
  - (iii.) the circumstances under which the proposed Surplus Interconnection Service would be available, including an indication of whether the proposed Interconnection Service would be available on a continuous basis (i.e., a certain number of MW of Surplus Interconnection Service would always be available for use by a co-located generating facility) or on a scheduled, periodic basis (i.e., a specified number of MW of Surplus Interconnection Service that would be available intermittently);
7. Evidence of Site Control as specified in the GIP (check one)
- \_\_\_\_\_ Is attached to this Interconnection Request
- \_\_\_\_\_ Will be provided at a later date in accordance with the GIP;

8. This Interconnection Request shall be submitted electronically to the Transmission Provider in the manner specified by the Generator Interconnection Business Practices Manual (BPM-015).

9. Primary Representative of Interconnection Customer to contact:

[To be completed by Interconnection Customer]

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_;

10. This Interconnection Request is submitted by:

[Name of Interconnection Customer Company]

By (signature): \_\_\_\_\_

Name (type or print): \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**Attachment A to Appendix 1  
Interconnection Request**

**GENERATING FACILITY DATA**

**A. Unit Ratings**

|                                                                                                                                                                                                                                                                                                                                                                                                          |                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 1. Total Generator Rated Output (MW)                                                                                                                                                                                                                                                                                                                                                                     |                    |
| 2. Rated MVA                                                                                                                                                                                                                                                                                                                                                                                             |                    |
| 3. Number of Generating units (repeat items 3-11 for each type of generator)                                                                                                                                                                                                                                                                                                                             |                    |
| 4. Individual generator rated output (MW)                                                                                                                                                                                                                                                                                                                                                                |                    |
| 5. Individual generator rated MVA                                                                                                                                                                                                                                                                                                                                                                        |                    |
| 6. Manufacturer                                                                                                                                                                                                                                                                                                                                                                                          |                    |
| 7. Year manufactured*                                                                                                                                                                                                                                                                                                                                                                                    |                    |
| 8. Nominal terminal voltage (kV)                                                                                                                                                                                                                                                                                                                                                                         |                    |
| 9. Minimum Short Circuit Ratio for turbine operation                                                                                                                                                                                                                                                                                                                                                     |                    |
| 10. Rated power factor<br>Refer:<br>i. FERC Order No. 827<br><a href="https://www.ferc.gov/whats-new/comm-meet/2016/061616/E-1.pdf">https://www.ferc.gov/whats-new/comm-meet/2016/061616/E-1.pdf</a><br>ii. MISO TO power factor requirements<br><a href="https://cdn.misoenergy.org/Reactive_Generator_Requirements108137.pdf">https://cdn.misoenergy.org/Reactive_Generator_Requirements108137.pdf</a> |                    |
| 11. Generator Voltage Regulation range (+/-)                                                                                                                                                                                                                                                                                                                                                             |                    |
| 12. Generator Power Factor Regulation range (+/-)                                                                                                                                                                                                                                                                                                                                                        |                    |
| 13. Primary frequency response operating range for electric storage resources:<br>i. Minimum state of charge:<br>ii. Maximum state of charge:                                                                                                                                                                                                                                                            | <br><hr/><br><hr/> |
| 14. Type (Induction, Synchronous, D.C. with Inverter)                                                                                                                                                                                                                                                                                                                                                    |                    |
| 15. Connection (Delta, Grounded WYE, Undergrounded WYE, Impedance Grounded)                                                                                                                                                                                                                                                                                                                              |                    |

**\*If available**

### A-1. Generator Short Circuit Information\*

(Provide following reactances in p.u. on the generator base)

|                                                                                                                                                                    |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1. $X''1$ —Positive sequence sub transient reactance (p.u.)                                                                                                        |  |
| 2. $X2$ —Negative sequence reactance (p.u.)                                                                                                                        |  |
| 3. $X0$ —Zero sequence reactance (p.u.)                                                                                                                            |  |
| 4. Generator grounding:<br>4.a. Solidly grounded (yes/no)<br>4.b. Grounded through an impedance (yes/no)<br>If yes: R _____ p.u.   X _____ p.u.<br>4.c. Ungrounded |  |

### A-2. Main Generator Step-up Up (GSU) Transformer

(Please fill out data in table below for each GSU transformer)

Number of Transformers \_\_\_\_\_

#### RATINGS

|                                                 | Self-Cooled                     | Maximum<br>Nameplate             |                      |
|-------------------------------------------------|---------------------------------|----------------------------------|----------------------|
| Capacity (kVA)                                  |                                 |                                  |                      |
|                                                 | Generator Side                  | System Side                      | Tertiary             |
| Voltage Ratio (kV)                              |                                 |                                  |                      |
|                                                 | Low Voltage                     | High Voltage                     | Tertiary Voltage     |
| Winding<br>Connections (Delta<br>or Wye)        |                                 |                                  |                      |
| IMPEDANCE                                       | Primary-Secondary               | Primary-Tertiary                 | Secondary-Tertiary   |
| Positive $Z1$ (on<br>self-cooled kVA<br>rating) | _____ %    _____ X/R            | _____ %    _____ X/R             | _____ %    _____ X/R |
| Zero $Z0$ (on self-<br>cooled kVA rating)       | _____ %    _____ X/R            | _____ %    _____ X/R             | _____ %    _____ X/R |
|                                                 | <u>Fixed Taps<br/>Available</u> | <u>Present Tap<br/>Available</u> |                      |
| TAP SETTING                                     |                                 |                                  |                      |

### A-3. Pad Mount Transformer

(Please fill out data in table below for each GSU transformer)

Number of Transformers \_\_\_\_\_

#### RATINGS

|                                               |                                 |                                  |                    |
|-----------------------------------------------|---------------------------------|----------------------------------|--------------------|
|                                               | Self-Cooled                     | Maximum<br>Nameplate             |                    |
| Capacity (kVA)                                |                                 |                                  |                    |
|                                               | Generator Side                  | System Side                      | Tertiary           |
| Voltage Ratio (kV)                            |                                 |                                  |                    |
|                                               | Low Voltage                     | High Voltage                     | Tertiary Voltage   |
| Winding<br>Connections (Delta<br>or Wye)      |                                 |                                  |                    |
| IMEPDANCE                                     | Primary-Secondary               | Primary-Tertiary                 | Secondary-Tertiary |
| Positive Z1 (on<br>self-cooled kVA<br>rating) | ____ % ____ X/R                 | ____ % ____ X/R                  | ____ % ____ X/R    |
| Zero Z0 (on self-<br>cooled kVA rating)       | ____ % ____ X/R                 | ____ % ____ X/R                  | ____ % ____ X/R    |
|                                               | <u>Fixed Taps<br/>Available</u> | <u>Present Tap<br/>Available</u> |                    |
| TAP SETTING                                   |                                 |                                  |                    |

#### A-4. Interconnection Facilities Tie Line Information

(Only list data for lines that are to be added by the generation developer)

|                                                                          |    |    |
|--------------------------------------------------------------------------|----|----|
| 1. Nominal Voltage (kV)                                                  |    |    |
| 2. Line length (miles)                                                   |    |    |
| 3. Line termination points                                               | 1. | 2. |
| 4. Conductor Type/Size (kcm)                                             |    |    |
| 5. Phase Configuration (Vertical or Horizontal)                          |    |    |
| 6. Summer line ratings in amperes (MVA)                                  |    |    |
| 7. Positive sequence resistance (R) for entire length (in p.u.*)         |    |    |
| 8. Positive sequence reactance (X) for entire length (in p.u.*)          |    |    |
| 9. Zero sequence resistance (R0) for entire length (in p.u.*)            |    |    |
| 10. Zero sequence reactance (X0) for entire length (in p.u.*)            |    |    |
| 11. Positive sequence line charging (B) for the entire length (in p.u.*) |    |    |

\* On 100-MVA and nominal line voltage (kV) Base

**For wind/photovoltaic plants, provide System Equivalence Impedance Data. (Provide values for each equivalence collector circuit at all voltage levels. Equivalent collector system impedance does not include pad mount impedance)**

|                                                                         |  |
|-------------------------------------------------------------------------|--|
| 1. Nominal Voltage (kV)                                                 |  |
| 2. Summer line ratings in amperes (MVA)                                 |  |
| 3. Positive sequence resistance (R) for entire length (in p.u.*)        |  |
| 4. Positive sequence reactance (X) for entire length (in p.u.*)         |  |
| 5. Zero sequence resistance (R0) for entire length (in p.u.*)           |  |
| 6. Zero sequence reactance (X0) for entire length (in p.u.*)            |  |
| 7. Positive sequence line charging (B) for the entire length (in p.u.*) |  |

\* On 100-MVA and nominal line voltage (kV) Base

#### **A-5. Dynamic Modeling Information**

The Interconnection Customer is to provide the appropriate PSS/E library model in the form of a Siemens PTI PSS/E dyr file. A detailed model of a generator must include:

- Generator Model
- Excitation System Model
  - May be omitted if unit is operated under manual excitation control
- Turbine-Governor Model
  - May be omitted if unit doesn't regulate frequency
- Power System Stabilizer Model
  - May be omitted if device is not installed or not active
- Reactive Line Drop Compensation Model
  - May be omitted if device is not installed or not active

Models submitted must be acceptable and recommended in the NERC Acceptable Model List posted at: [http://www.nerc.com/comm/PC/Pages/System-Analysis-and-Modeling-Subcommittee-\(SAMS\)-2013.aspx](http://www.nerc.com/comm/PC/Pages/System-Analysis-and-Modeling-Subcommittee-(SAMS)-2013.aspx) and also comply with MISO's MOD-032 Model Data Requirements and Reporting Procedures posted at: <https://www.misoenergy.org/planning/planning-modeling/mod-032-1>

#### **A-6. ONE-LINE & MODEL INFORMATION**

The Interconnection Customer shall provide a Power Flow model describing the generator in a format compatible with Siemens PTI PSS/E (.sav, .raw, .idev, .py, .prj, or equivalent format as specified by MISO).

The Interconnection Customer is to provide the definitive one-line diagram for the POI – Information shall include:

- Breaker layout, bus configuration (if available) and number of generators
- The zero sequence impedance (if applicable)
- The distance from the collector substation to the POI referenced in miles and the line impedance

- If the POI is a line tap, distance from the tap to the endpoints of the existing line referenced in miles
- Generator step up (GSU) transformer data and collector substation transformer data, including impedances for each phase of the transformer (if applicable)
- For inverter based generators, FERC Order 827 requires
  - Location and size of any dynamic and/or static VAR compensation devices
  - Equivalent collector system impedance

Models submitted should comply with MISO's Model Data Requirements and Reporting Procedures posted at: <https://www.misoenergy.org/planning/planning-modeling/mod-032-01>



**B. Synchronous Generator Information**  
**(e.g. Biomass, Coal, Diesel, Hydro, Natural Gas, Nuclear, Oil)**

|                                                                                                        |                    |                        |
|--------------------------------------------------------------------------------------------------------|--------------------|------------------------|
| 1. (Repeat the following for each generator model) Rated Generator speed (rpm)                         |                    |                        |
| 2. Maximum Turbine MW (°F)                                                                             |                    |                        |
| 3. Moment-of-Inertia, $WR^2$ (lb.ft. <sup>2</sup> for combined Turbine-Generator-Exciter-Inertia Data) |                    |                        |
| 4. Inertia Constant, H (kW sec/kVA for combined Turbine-Generator-Exciter-Inertia Data)                |                    |                        |
| <b>Reactance Data (Per Unit- Rated kVA)</b>                                                            |                    |                        |
|                                                                                                        | <b>Direct Axis</b> | <b>Quadrature Axis</b> |
| Synchronous-saturated                                                                                  | Xdv:               | Xqv:                   |
| Synchronous-unsaturated                                                                                | Xdi                | Xqi                    |
| Transient – saturated                                                                                  | Xdv:               | Xqv:                   |
| Transient – unsaturated                                                                                | Xdi:               | Xqi:                   |
| Subtransient – saturated                                                                               | Xdv:               | Xqv:                   |
| Subtransient – unsaturated                                                                             | Xdi:               | Xqi:                   |
| Negative Sequence - saturated                                                                          | X2v:               |                        |
| Negative Sequence - unsaturated                                                                        | X2i:               |                        |
| Zero Sequence – saturated                                                                              | X0v:               |                        |
| Zero Sequence – unsaturated                                                                            | X0i:               |                        |
| Leakage Reactance                                                                                      | Xlm:               |                        |
| <b>Field Time Constant Data (sec)</b>                                                                  |                    |                        |
| Open Circuit                                                                                           | Td0:               | Tq0:                   |
| Three-Phase Short Circuit Transient                                                                    | Td3:               | Tq:                    |
| Line-to-Line Short Circuit Transient                                                                   | Td2:               |                        |
| Line-to-Neutral Short Circuit Transient                                                                | Td1:               |                        |
| Short Circuit Subtransient                                                                             | Td:                | Tq:                    |
| Open Circuit Subtransient                                                                              | Td0:               | Tq0:                   |
| <b>Armature Time Constant Data (sec)</b>                                                               |                    |                        |
| Three Phase Short Circuit                                                                              | Ta3                |                        |
| Line-to-Line Short Circuit                                                                             | Ta2                |                        |
| Line-to-Neutral Short Circuit                                                                          | Ta1                |                        |
| <b>Armature Winding Resistance Data (Per Unit)</b>                                                     |                    |                        |
| Positive                                                                                               | R1                 |                        |
| Negative                                                                                               | R2                 |                        |
| Zero                                                                                                   | R0                 |                        |
| Rotor Short Time Thermal capacity I22t                                                                 |                    |                        |
| Field Current Rated kVA, Armature Voltage and, <b>PF</b>                                               | = _____ amps       |                        |
| Field Current Rated kVA, Armature Voltage and, <b>0 PF</b>                                             | = _____ amps       |                        |

|                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Three Phase Armature Winding Capacitance                                                                                                                                                                                                                                                                                                                                                                                | = _____ microfarad |
| Field Winding Resistance                                                                                                                                                                                                                                                                                                                                                                                                | = _____ ohms C     |
| Armature Winding Resistance (per Phase)                                                                                                                                                                                                                                                                                                                                                                                 | = _____ ohms C     |
| 5. Attach generator reactive capability curves                                                                                                                                                                                                                                                                                                                                                                          |                    |
| 6. Attach a plot of generator terminal voltage versus field current showing the air gap line, open-circuit saturation curve, and saturation curve at full load and rated power factor, and power quality curves specifying percent total harmonic distortion vertically and percent power output horizontally from 25 – 100% power output for both current and voltages or specify that the unit is IEEE 519 compliant. |                    |

**B-1. Excitation System Information**  
(Repeat the following for each generator model)

|                                                                                                                                                                                                                                           |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1. Manufacturer and Type of excitation system used for the generator.                                                                                                                                                                     |  |
| 2. Excitation System Response Ratio (ASA)                                                                                                                                                                                                 |  |
| 3. Full load rated exciter output voltage                                                                                                                                                                                                 |  |
| 4. Maximum exciter output voltage (ceiling voltage)                                                                                                                                                                                       |  |
| 5. Other comments regarding excitation system                                                                                                                                                                                             |  |
| 6. Attach IEEE block diagram of the excitation system and power system stabilizer (PSS) for computer representation in power system stability simulations and the corresponding excitation system and PSS constants for use in the model. |  |

**B-2. Turbine Governor Information**

(Repeat the following for each generator model and complete only section that applies to corresponding turbine type)

|                              |                                                                                                                |  |
|------------------------------|----------------------------------------------------------------------------------------------------------------|--|
| For all turbine types        | a. Turbine manufacturer                                                                                        |  |
|                              | b. Maximum turbine power output (MW)                                                                           |  |
|                              | c. Minimum turbine power output while on-line (MW)                                                             |  |
|                              | d. Droop setting (speed regulation)                                                                            |  |
|                              | e. Is the governor mechanical-hydraulic or electro-hydraulic?                                                  |  |
|                              | f. Other comments about turbine governor system?                                                               |  |
| Steam, gas or combined cycle | a. Unit type (Steam, Gas, Combined Cycle)                                                                      |  |
|                              | b. If steam or combined-cycle, does turbine system have re-heat process (both high and low pressure turbines)? |  |

|                |                                                                                                                  |  |
|----------------|------------------------------------------------------------------------------------------------------------------|--|
|                | c. If steam with reheat process, or if combined cycle, indicate low/high pressure turbine gas/steam (%)          |  |
| Hydro Turbines | a. Turbine efficiency at rated load (%)                                                                          |  |
|                | b. Length of penstock (ft)                                                                                       |  |
|                | c. Average cross-sectional area of penstock (ft <sup>2</sup> )                                                   |  |
|                | d. Typical maximum head (vertical distance from the bottom of the penstock, at the gate, to the water level (ft) |  |
|                | e. Water supply (run-of-the-river or reservoir)                                                                  |  |
|                | f. Water flow rate at typical maximum head (ft <sup>3</sup> /sec)                                                |  |
|                | g. Average energy rate (kWh/acre-ft)                                                                             |  |
|                | h. Estimated yearly energy production (kWh)                                                                      |  |

### B-3. Induction Generator Information

|                                                  |  |
|--------------------------------------------------|--|
| 1. Motoring Power (kW)                           |  |
| 2. Neutral Grounding Resistor (If Applicable)    |  |
| 3. I22t or K (Heating Time Constant)             |  |
| 4. Rotor Resistance                              |  |
| 5. Stator Resistance                             |  |
| 6. Stator Reactance:                             |  |
| 7. Rotor Reactance:                              |  |
| 8. Magnetizing Reactance:                        |  |
| 9. Short Circuit Reactance:                      |  |
| 10. Exciting Current:                            |  |
| 11. Temperature Rise:                            |  |
| 12. Frame Size:                                  |  |
| 13. Design Letter:                               |  |
| 14. Reactive Power Required In Vars (No Load):   |  |
| 15. Reactive Power Required In Vars (Full Load): |  |

|                                |                                     |
|--------------------------------|-------------------------------------|
| 16. Total Rotating Inertia, H: | _____ in<br>Per Unit on KVA<br>Base |
|--------------------------------|-------------------------------------|

### C. Non-Synchronous Generator Information

#### C-1. Wind Generators Information

|                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 1. Number of generators to interconnect pursuant to Interconnection Request                                                                                                                                                                                                                                                                                                          |                                                                                                                               |
| 2. Average site elevation                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                               |
| 3. Field Volts                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                               |
| 4. Field Amperes                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                               |
| 5. Heating time constant (I22t)                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                               |
| 6. Rotor Resistance                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                               |
| 7. Stator Resistance                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                               |
| 8. Rotor Reactance                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                               |
| 9. Stator Reactance                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                               |
| 10. Exciting Current                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                               |
| 11. Temperature Rise                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                               |
| 12. Total Rotating inertia (H) (Per unit on 100 MVA Base)                                                                                                                                                                                                                                                                                                                            |                                                                                                                               |
| 13. List of adjustable set- points for protective equipment or software*                                                                                                                                                                                                                                                                                                             |                                                                                                                               |
| 14. Generator type (e.g. GE doubly fed induction machine with back-to-back IGBT converters, or Micon induction generator)                                                                                                                                                                                                                                                            |                                                                                                                               |
| 15. Generator voltage ride through capability                                                                                                                                                                                                                                                                                                                                        | Min low-voltage threshold in percent to enable tripping _____<br>Max low-voltage duration in seconds to enable tripping _____ |
| 16. Provide voltage flicker data, if available, for the wind generator model to be installed specified in percent of total voltage output. The data may be provided at 25, 50, 75, and 100% of output or in the form of a curve with the Y-axis showing percent of flicker versus total output and the X-axis showing percent load output from at least 25% to 100% of total output. |                                                                                                                               |
| 17. Provide voltage dropout limits expressed in voltage level versus time                                                                                                                                                                                                                                                                                                            |                                                                                                                               |
| 18. Provide frequency dropout limits expressed in frequency versus time                                                                                                                                                                                                                                                                                                              |                                                                                                                               |
| 19. Provide reactive power capability curve                                                                                                                                                                                                                                                                                                                                          |                                                                                                                               |

**\*If available**

**C-2. Inverter-Based Parameters (e.g. Solar, Storage, Type 4 Wind Turbines)**

|                                                                           |  |
|---------------------------------------------------------------------------|--|
| 1. Number of inverters to be interconnected                               |  |
| 2. Inverter Manufacturer                                                  |  |
| 3. Inverter Model Name                                                    |  |
| 4. Inverter Model Number                                                  |  |
| 5. Inverter Version Number                                                |  |
| 6. List of adjustable set points for the protective equipment or software |  |
| 7. Maximum design fault contribution current                              |  |
| 8. Harmonics Characteristics                                              |  |
| 9. Start – up requirements                                                |  |

**\*PSCAD models may be required/requested for inverter based resources as needed during the Generator Interconnection Process. If available please provide with application materials.**

**ATTACHMENT B TO APPENDIX 1 TO GIP  
INTERCONNECTION STUDY AGREEMENT (GENERATING FACILITY)**

**THIS AGREEMENT** is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_, (“Interconnection Customer,”) and the **Midcontinent Independent System Operator, Inc.**, a non-profit, non-stock corporation organized and existing under the laws of the State of Delaware, sometimes hereinafter referred to as the “Transmission Provider.” Interconnection Customer and Transmission Provider each may be referred to as a “Party,” or collectively as the “Parties.” Any capitalized term used herein but not defined herein shall have the meaning assigned to such term in the GIP and the GIA.

**RECITALS**

**WHEREAS**, Interconnection Customer is proposing to develop a Generating Facility or generating capacity addition to an Existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated \_\_\_\_\_; and

**WHEREAS**, Interconnection Customer desires to interconnect the Generating Facility with the Transmission System; and

**WHEREAS**, Interconnection Customer has requested Transmission Provider to perform Interconnection Studies and/or Provisional Interconnection Studies to assess interconnecting the proposed Generating Facility to the Transmission System, and of any Affected Systems;

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Transmission Provider's Commission-approved GIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed an Interconnection Study and/or an Provisional Interconnection Study consistent with the GIP in accordance with the Tariff, an Interconnection System Impact Study consistent with the GIP and an Interconnection Facilities Study consistent with the GIP, collectively referred to as the "Studies."
- 3.0 The Studies shall be based on the technical information provided by Interconnection Customer in the Interconnection Request, as may be modified as the result of the Scoping Meeting, study results, or any other reason identified in the GIP. Transmission Provider reserves the right to request additional technical information from Interconnection Customer as such information may reasonably become necessary consistent with Good Utility Practice during the course of the Studies and as designated in accordance with Section 3.3.3 of the GIP. If, after the designation of the Point of Interconnection pursuant to Section 3.3 of the GIP, Interconnection Customer modifies its Interconnection Request pursuant to Section 4.4, Transmission Provider may extend the time to complete The Studies.
- 4.0 **{Reserved}**
- 5.0 The Interconnection System Impact Study report shall provide the following information:
  - identification of any equipment short circuit capability limits exceeded as a result of the interconnection;

- identification of any thermal overload or voltage limit violations resulting from the interconnection;
- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection (including as necessary, transient stability, both large and small signal, sub synchronous stability, dynamic voltage stability, mid and long-term stability, voltage flicker analyses, and excessive neutral current studies in accordance with Good Utility Practice), and
- preliminary description and non-binding, good faith, planning level estimated cost of facilities required to interconnect the Generating Facility to the Transmission System and to address the identified short circuit, instability, and power flow issues.

6.0 The Interconnection Facilities Study shall provide draft GIA appendices and supporting documentation, which will: (i) provide a description, estimated cost of (consistent with Attachment A), and schedule for required facilities to interconnect the Generating Facility to the Transmission System and (ii) address the short circuit, instability, and power flow issues identified in the Interconnection System Impact Study.

7.0 Interconnection Customer shall provide deposits in the amount and timing outlined in Sections 3.3 of the GIP for the performance of the Studies.

Any difference between the deposit and the actual cost of The Studies shall be paid by or refunded to Interconnection Customer, as appropriate under Section 13.3 of the GIP.



- 8.0 Interconnection Customer may request all Base Cases and work papers associated with this Interconnection Request, subject to Transmission Provider provisions around acquiring Critical Energy Infrastructure Information.
- 9.0 Indemnity. To the extent permitted by law, each Party shall at all times indemnify, defend and hold the other Parties harmless from any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.
- 10.0 Limitation of Liability. Except with respect to the duties of defense and indemnity expressly provided in this Agreement, a Party shall not be liable to another Party or to any third party or other person for any damages arising out of actions under this Agreement, including, but not limited to, any act or omission that results in an interruption, deficiency or imperfection of Interconnection Service, except as provided in the Tariff. The provisions set forth in the Tariff shall be additionally applicable to any Party acting in good faith to implement or comply with its obligations under this Agreement, regardless of whether the obligation is preceded by a specific directive.
- 11.0 Miscellaneous. Except as otherwise provided herein, this Agreement shall include standard miscellaneous terms including, but not limited to, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, that are consistent with regional practices, Applicable Laws and Regulations and the organizational nature of each Party. All of these provisions,

to the extent practicable, shall be consistent with the provisions of the GIP and the GIA.

**IN WITNESS THEREOF**, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

**Midcontinent Independent**  
**System Operator, Inc.**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**[Insert name of Interconnection Customer]**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

## INTERCONNECTION STUDY AGREEMENT (INJECTION RIGHTS)

**THIS AGREEMENT** is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_, (“MHVDC Connection Customer,”) and the **Midcontinent Independent System Operator, Inc.**, a non-profit, non-stock corporation organized and existing under the laws of the State of Delaware, sometimes hereinafter referred to as the “Transmission Provider.” MHVDC Connection and Transmission Provider each may be referred to as a “Party,” or collectively as the “Parties.” Any capitalized term used herein but not defined herein shall have the meaning assigned to such term in the GIP and the GIA.

### RECITALS

**WHEREAS**, MHVDC Connection Customer is proposing to develop an MHVDC Transmission Line or capacity addition to an existing MHVDC Transmission Line consistent with the Interconnection Request submitted by MHVDC Connection Customer dated \_\_\_\_\_; and

**WHEREAS**, MHVDC Connection Customer desires to interconnect the MHVDC Transmission Line with the Transmission System; and

**WHEREAS**, MHVDC Connection Customer has requested Transmission Provider to perform Interconnection Studies and/or Provisional Interconnection Studies to assess interconnecting the proposed MHVDC Transmission Line to the Transmission System, and of any Affected Systems;

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall

have the meanings indicated in the Transmission Provider's Commission-approved GIP.

- 2.0 MHVDC Connection Customer elects and Transmission Provider shall cause to be performed an Interconnection Study and/or an Provisional Interconnection Study consistent with the GIP in accordance with the Tariff, an Interconnection System Impact Study consistent with the GIP and an Interconnection Facilities Study consistent with the GIP, collectively referred to as the "Studies."
- 3.0 The Studies shall be based on the technical information provided by MHVDC Connection Customer in the Interconnection Request, as may be modified as the result of the Scoping Meeting, study results, or any other reason identified in the GIP. Transmission Provider reserves the right to request additional technical information from MHVDC Connection Customer as such information may reasonably become necessary consistent with Good Utility Practice during the course of the Studies and as designated in accordance with Section 3.3.3 of the GIP. If, after the designation of the Point of Interconnection pursuant to Section 3.3 of the GIP, MHVDC Connection Customer modifies its Interconnection Request pursuant to Section 4.4, Transmission Provider may extend the time to complete The Studies.
- 4.0 **{Reserved}**
- 5.0 The Interconnection System Impact Study report shall provide the following information:
  - identification of any equipment short circuit capability limits exceeded as a result of the interconnection;
  - identification of any thermal overload or voltage limit violations resulting

from the interconnection;

- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection (including as necessary, transient stability, both large and small signal, sub synchronous stability, dynamic voltage stability, mid and long-term stability, voltage flicker analyses, and excessive neutral current studies in accordance with Good Utility Practice), and
- preliminary description and non-binding, good faith, planning level estimated cost of facilities required to interconnect the MHVDC Transmission Line to the Transmission System and to address the identified short circuit, instability, and power flow issues.

6.0 The Interconnection Facilities Study shall provide draft TCA appendices and supporting documentation, which will: (i) provide a description, estimated cost of (consistent with Attachment A), and schedule for required facilities to interconnect the MHVDC Transmission Line to the Transmission System and (ii) address the short circuit, instability, and power flow issues identified in the Interconnection System Impact Study.

7.0 MHVDC Connection Customer shall provide deposits in the amount and timing outlined in Sections 3.3 of the GIP for the performance of the Studies.

Any difference between the deposit and the actual cost of The Studies shall be paid by or refunded to MHVDC Connection Customer, as appropriate under Section 13.3 of the GIP.

8.0 MHVDC Connection Customer may request all Base Cases and work papers associated with this Interconnection Request, subject to Transmission Provider

provisions around acquiring Critical Energy Infrastructure Information.

- 9.0 Indemnity. To the extent permitted by law, each Party shall at all times indemnify, defend and hold the other Parties harmless from any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.
- 10.0 Limitation of Liability. Except with respect to the duties of defense and indemnity expressly provided in this Agreement, a Party shall not be liable to another Party or to any third party or other person for any damages arising out of actions under this Agreement, including, but not limited to, any act or omission that results in an interruption, deficiency or imperfection of Interconnection Service, except as provided in the Tariff. The provisions set forth in the Tariff shall be additionally applicable to any Party acting in good faith to implement or comply with its obligations under this Agreement, regardless of whether the obligation is preceded by a specific directive.
- 11.0 Miscellaneous. Except as otherwise provided herein, this Agreement shall include standard miscellaneous terms including, but not limited to, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, that are consistent with regional practices, Applicable Laws and Regulations and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the GIP and the GIA.

**IN WITNESS THEREOF**, the Parties have caused this Agreement to be duly executed  
by their duly authorized officers or agents on the day and year first above written.

**Midcontinent Independent**  
**System Operator, Inc.**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**[Insert name of MHVDC Connection Customer]**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**ATTACHMENT C TO APPENDIX 1: UNIVERSAL NON-DISCLOSURE AND  
CONFIDENTIALITY AGREEMENT**

**PROJECT NO. \_\_\_\_\_**

This Universal Non-Disclosure and Confidentiality Agreement (the “Agreement”) is entered into on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ and effective as of the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ (the “Effective Date”), by and between Midcontinent Independent System Operator, Inc. (“MISO”) and \_\_\_\_\_, (“Company”) whose principal offices are located at \_\_\_\_\_. MISO and Company each may be referred to individually as a “Party” or collectively as the “Parties.”

WHEREAS, MISO is prepared to disclose confidential information under this Agreement to Company in connection with MISO’s business with, or possible engagement of, Company (the “Purpose”);

WHEREAS, Company represents that it desires to receive confidential information pursuant to this Agreement; and,

WHEREAS, MISO and Company desire to set forth in writing the terms and conditions of their agreement.

NOW THEREFORE, in consideration of the mutual promises, covenants, representations and agreements contained in this Agreement and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

**1.0 Confidential Information.** “Confidential Information” as used in this Agreement means all information disclosed to Company by MISO or its employees, agents, contractors, representatives, consultants and advisors (collectively “Disclosing Party”) in connection

Effective On: August 6, 2025



with the Purpose. Confidential Information includes, without limitation, (i) any and all business, technical, marketing, financial or other information, whether in electronic, oral or written form; (ii) trade secrets, business plans, techniques, methods, or systems, data, know-how, formulae, compositions, designs, sketches, mock-ups, prototypes, photographs, charts, graphs, forms, documents, drawings, samples, inventions, ideas, research and development, customer and vendor lists (including, without limitation, the identity, characteristics, contact persons, product and service needs thereof), rates, price lists, computer software programs and systems, financial statements, and budgets; (iii) all memoranda, summaries, notes, analyses, compilations, studies or those portions of other documents prepared by Company to the extent they contain or reflect such information of, or the contents of discussions with the Disclosing Party (“Company’s Material”), including the contents or existence of discussions or negotiations related to the Purpose; (iv) information not generally known or readily ascertainable; (v) information that provides a competitive advantage for Disclosing Party; and (vi) information that is marked “Confidential” or nonpublic information which under the circumstances surrounding disclosure a reasonable person would conclude should be treated as confidential. Confidential Information shall not include information that (a) is or becomes part of the public domain other than as a result of disclosure by Company, (b) becomes available to Company on a non-confidential basis from a source other than Disclosing Party, provided that, to the best of Company’s knowledge, such source is not prohibited from transmitting such information by a contractual, legal, or other obligation, or (c) was in Company’s possession prior to disclosure of the same by Disclosing Party.

- 2.0 Non-Use; Protection and Dissemination of Confidential Information.** Company agrees not to disclose, discuss, use, reproduce, duplicate, distribute, copy, reconstruct or in any way communicate, directly or indirectly, the Confidential Information for purposes other than in connection with the Purpose. Company shall not disclose, discuss, use, reproduce, duplicate, distribute or in any way communicate, directly or indirectly, the Confidential Information to any other party and will use all reasonable efforts to protect the confidentiality of such information. Company will require that Company’s employees, officers, directors, agents, contractors, representatives, consultants and

advisors who need to have access to such Confidential Information in order to assist Company in connection with the Purpose (1) are aware of the Company's confidentiality obligation hereunder, and (2) agree to be bound by such confidentiality obligations. Company shall notify Disclosing Party immediately of any loss, misuse, or misappropriation of any Confidential Information of which Company becomes aware.

**3.0 Ownership and Return.** All Confidential Information, including Company's Material, shall be and remain the property of Disclosing Party, and no right or license is granted to Company with respect to any Confidential Information. No transfer or creation of ownership rights in any intellectual property comprising Confidential Information is intended or shall be inferred by the disclosure of Confidential Information by Disclosing Party, and any and all intellectual property comprising Confidential Information disclosed and any derivations thereof, shall continue to be the exclusive intellectual property of Disclosing Party. Upon the termination by any Party of the Purpose, or sooner if so requested, Company agrees to immediately return all Confidential Information, including Company's Material, to Disclosing Party or to destroy all Confidential Information, including all copies of the same, however, Company shall not be required to destroy Confidential Information that has become embedded in Company's planning models. Upon request, the fact of any such destruction shall be certified in writing to Disclosing Party by Company. Nothing in this Agreement obligates Disclosing Party to disclose any information to Company or creates any agency or partnership relation between them.

**4.0 Compliance and Protection of Confidential Information.** Company represents and warrants that it has practices and procedures adequate to protect against the unauthorized release of Confidential Information received. Company must educate its employees, agents, and assigns in the provisions of this Agreement and provide to Disclosing Party upon request any information necessary to determine compliance with the terms of this Agreement.

**5.0 Indemnification.** To the extent permitted by law, Company agrees to indemnify, hold harmless and defend MISO, its employees, principals (owners, partners, shareholders or holders of an ownership interest, as the case may be), agents, contractors, representatives,

consultants and/or advisors against any and all liability, loss, costs, damages, expenses, claims or actions, joint or several, arising out of or by reason of any breach of this Agreement by Company and/or Company's employees, agents, contractors, representatives or consultants, or arising out of or by reason of any act or omission of Company and/or Company's employees, agents, contractors, representatives or consultants in the execution, performance, or failure to adequately perform their obligations under this Agreement. For purposes of this Section, to "indemnify" means to defend and pay all expenses (including reasonable attorneys' fees) and satisfy all judgments (including costs and reasonable attorneys' fees) which may be incurred or rendered against MISO, its employees, principals (owners, partners, shareholders or holders of an ownership interest, as the case may be), agents, contractors, representatives, consultants and/or advisors.

- 6.0 Compelled Disclosure.** If Company is requested or required by legal or administrative process to disclose any Confidential Information, Company shall promptly notify Disclosing Party of such request or requirement so that Disclosing Party may seek an appropriate protective order or other relief. In any case, Company will (a) disclose only that portion of the Confidential Information that its legal counsel advises is required to be disclosed, (b) use its reasonable efforts to ensure that such Confidential Information is treated confidentially, including seeking an appropriate protective order, and (c) notify Disclosing Party as soon as reasonably practicable of the items of Confidential Information so disclosed.
- 7.0 Remedies.** The Parties acknowledge that remedies at law may be inadequate to protect Disclosing Party against any actual or threatened breach of this Agreement by Company, and, without prejudice to any other rights and remedies otherwise available to Disclosing Party, agree to the immediate granting of preliminary and final injunctive relief (without prior notice and without posting any bond) in favor of Disclosing Party to enjoin and restrain any breach or violation, either actual or anticipatory, of this Agreement.
- 8.0 Purpose.** None of the Parties will be under any legal obligation of any kind whatsoever with respect to the Purpose by virtue of this Agreement, except for the matters

specifically agreed to herein. No representation or warranty is made by the Disclosing Party as to the accuracy or completeness of any information provided to the Company.

**9.0 Term and Termination.** Company's obligations under this Agreement shall be effective on the date set forth above and shall be perpetual, notwithstanding any expiration, cancellation or termination of this Agreement. Upon termination of the Agreement, Company shall either promptly (1) deliver or cause to be delivered to Disclosing Party or (2) certify to the Disclosing Party the destruction of, all Confidential Information, including all copies of the Confidential Information in Company's possession or control including, without limitation, originals and copies of documents, customer lists, prospect lists, price lists, operations manuals, and all other documents reflecting or referencing the Confidential Information, as well as all other materials furnished to or acquired by Company to facilitate the Purpose of the Agreement.

**10.0 Agency.** This Agreement is binding on Company, its employees, agents, contractors, representatives, consultants, advisors, successors and assigns. In the event of a dispute regarding liability for breach of this Agreement, common law agency principles apply.

**11.0 Waiver.** No waiver of any of the provisions of this Agreement will be deemed or will constitute a waiver of any other provision, whether or not similar, nor will any waiver constitute a continuing waiver. No waiver will be binding unless executed in writing by an authorized representative of the Party making the waiver. The failure of either Party in any one or more instances to insist upon strict performance of any of the terms and conditions of this Agreement will not be construed as a waiver or relinquishment, to any extent, of the right to assert or rely upon any such terms or conditions on any future occasion.

**12.0 Modification.** This Agreement may not be amended except in a writing signed by authorized representatives of both Parties.

**13.0 Governing Law.** Indiana law shall govern the interpretation and implementation of the Agreement and the resolution of any dispute between the parties regarding the effect of the Agreement without giving effect to principles of conflicts of law, and shall supplement, but not replace, the Uniform Trade Secrets Act as enacted by the State of Indiana. Each Party hereby submits itself for the sole purpose of this Agreement and any

controversy arising hereunder to the exclusive jurisdiction of the federal or state courts located in the State of Indiana serving the counties of Hamilton and Marion, and any courts of appeal therefrom, and waives any objection (on the grounds of lack of jurisdiction, or forum not convenient or otherwise) to the exercise of such jurisdiction over it by any such courts.

- 14.0 Severability and Survival.** Should any clause, portion or paragraph of this Agreement be unenforceable or invalid for any reason, such unenforceability or invalidity will not affect the enforceability or validity of the remainder of this Agreement, and any court having jurisdiction is specifically authorized and encouraged by the Parties to hold inviolate all portions of this Agreement that are valid and enforceable without consideration of any invalid or unenforceable portions hereof.
- 15.0** The headings of the sections in this Agreement are for the purposes of convenient reference only and are not intended to be part of this Agreement, or to limit or affect the meaning or interpretation of any of the terms hereof.
- 16.0 Assignment and Succession.** This Agreement shall inure to the benefit of and be binding upon the successors and permitted assigns of the Parties hereto. Any successor to or assignee of MISO shall assume its rights and obligations under this Agreement with or without notice to Company. Company may not assign its rights hereunder without the written permission of MISO.
- 17.0 Attorney's Fees.** If Company breaches or defaults in the performance of any of the covenants, agreements, representations, or warranties described in this Agreement, then in addition to any and all of the rights and remedies which MISO may have against Company, Company will also be liable to and pay MISO its court costs and reasonable attorney's fees incurred in enforcing MISO's covenants, agreements, representations and warranties herein.
- 18.0 Employees Bound by Agreement.** The representative executing this Agreement hereby acknowledges and agrees that he/she is duly authorized to execute this Agreement on behalf of Company and that this Agreement shall bind and be enforceable by and against the employees, agents, or consultants of Company. The authorized representative of Company further acknowledges and agrees that only those employees who are listed on

the attached Appendix A incorporated herein shall be authorized to receive Confidential Information directly from MISO and that he/she will notify MISO in writing of any modification to Appendix A prior to releasing Confidential Information to those employees listed on Appendix A.

- 19.0 Notices.** All notices and other communications hereunder shall be in writing and shall be deemed given if delivered personally or by commercial delivery service, or mailed by registered or certified mail (return receipt requested) or sent via facsimile (with acknowledgment of complete transmission) to the parties at the following addresses (or at such other address for a party as shall be specified by like notice):

if to MISO, to: 720 West City Center Drive  
Carmel, Indiana 46032  
Attn: General Counsel  
Facsimile No.: (317) 249-5912

if to \_\_\_\_\_, to: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Facsimile No.: \_\_\_\_\_

- 20.0 Entire Agreement.** The Parties agree that this Agreement, including Appendix A incorporated herein and as modified, constitute their entire agreement with respect to the subject matter hereof and that it supersedes any prior agreements or understandings between them, whether written or oral.

Company acknowledges that it has read the Agreement, had the opportunity to discuss it with counsel, and is executing it with an understanding of its provisions. This Agreement may be executed in two or more counterparts, each of which will be deemed an original and all of which together will constitute one and the same document.

*remainder of page left intentionally blank*

[signatures appear on following page]

**IN WITNESS WHEREOF**, the Parties have caused this Agreement to be executed,  
effective as of the day, month and year written above.

**Midcontinent Independent System Operator, Inc.**

**Midcontinent Independent System  
Operator, Inc.**

**Company:**

\_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

Print name: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

Fax: \_\_\_\_\_



**APPENDIX A TO ATTACHMENT C  
TO MISO UNIVERSAL NON-DISCLOSURE AND  
CONFIDENTIALITY AGREEMENT**

Company, \_\_\_\_\_ Employees, Agents, or Consultants  
subject to Confidentiality Agreement as of this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_:

|     | <u>Print Name</u> | <u>Title</u> | <u>E-mail Address</u> | <u>Transmission/Reliability or<br/>Merchant/Market, or N/A*</u> |
|-----|-------------------|--------------|-----------------------|-----------------------------------------------------------------|
| 1.  |                   |              |                       |                                                                 |
| 2.  |                   |              |                       |                                                                 |
| 3.  |                   |              |                       |                                                                 |
| 4.  |                   |              |                       |                                                                 |
| 5.  |                   |              |                       |                                                                 |
| 6.  |                   |              |                       |                                                                 |
| 7.  |                   |              |                       |                                                                 |
| 8.  |                   |              |                       |                                                                 |
| 9.  |                   |              |                       |                                                                 |
| 10. |                   |              |                       |                                                                 |

(Attach Additional Pages If Necessary)

\* An individual who is an employee of a Transmission Provider (as defined in 18 C.F.R. § 358.3(k) may not be subject to the FERC functional separation requirements (*i.e.*, “N/A” designation) under certain circumstances in accordance with FERC Order No. 717 and the FERC regulations therein adopted. If such an individual would receive information subject to this Amendment, the copy of this Appendix A executed for that individual must be accompanied by written confirmation from Company stating the following: (1) the designated individual is not engaged in transmission or marketing functions (*i.e.*, day-to-day duties and responsibilities for planning, directing, organizing or carrying out operations); (2) the individual has received training on the Standards of Conduct; and (3) the individual undertakes

to comply with such Standards, including in particular the “no conduit rule” set forth in 18 C.F.R. § 358.6.

NOTE: Any changes to the information on this Appendix A must be submitted electronically to the Transmission Provider in the manner specified by the Generator Interconnection Business Practices Manual (BPM-015).

**ATTACHMENT D TO APPENDIX 1: CRITICAL ENERGY INFRASTRUCTURE**  
**INFORMATION GENERAL NON-DISCLOSURE AGREEMENT**

WHEREAS, Midcontinent Independent System Operator, Inc. (“MISO”) is prepared to disclose Critical Energy Infrastructure Information (“CEII”) under this Critical Energy Infrastructure Information General Non-Disclosure Agreement (“NDA”) to \_\_\_\_\_ (“Recipient”), an individual (employee, manager or officer) employed with \_\_\_\_\_, in connection with a legitimate need for the CEII (the “Purpose”) (MISO and Recipient may be collectively referred to as “Parties” or singly as “Party”);

WHEREAS, Recipient represents that he/she has a legitimate purpose for requesting the CEII pursuant to this Agreement; and,

WHEREAS, MISO and Recipient desire to set forth in writing the terms and conditions of their agreement.

NOW THEREFORE, in consideration of the mutual promises, covenants, representations and agreements contained in this Agreement and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Definitions - For purposes of these provisions:

- a. The term “CEII” shall include specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure that: (1) relates details about the production, generation, transportation, transmission, or distribution of energy; (2) could be useful to a person in planning an attack on critical infrastructure; (3) is exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. 552 (2000); and (4) does not simply give the general location of the critical infrastructure. Narratives such as the descriptions of facilities and processes are generally not CEII unless they describe specific engineering and design details of critical infrastructure.

- b. The term “Recipient” means someone who has executed this NDA and is approved to receive CEII.
2. A Recipient certifies that it is his/her understanding that access to CEII is provided pursuant to the terms and restrictions of the provisions in this NDA, and that such Recipient has read the provisions and agrees to be bound by them.
3. Recipient may only discuss CEII with another Recipient of the identical CEII. A Recipient may check with MISO to determine whether another individual is a Recipient of the identical CEII.
4. A Recipient of CEII may use CEII as foundation for advice provided to others, but may not disclose CEII to another individual unless that individual is an approved Recipient of the same CEII.
5. A Recipient will not knowingly use CEII for an illegal or non-legitimate purpose.
6. All CEII shall be maintained by Recipient in a secure place. Access to those materials shall be limited to other Recipients of the identical material. Recipients may make copies of CEII, but such copies become CEII and subject to these same procedures. Recipients may make notes of CEII, which shall be treated as CEII notes if they contain CEII.
7. Recipients must return CEII to MISO or destroy CEII within fifteen days of a written request by MISO to do so, except that CEII notes may be retained in accordance with Paragraph 6, above. Within such time period, each Recipient, if requested to do so, shall also submit to MISO an affidavit stating that, to the best of his or her knowledge, all CEII has been returned or destroyed and that CEII notes have either been returned, destroyed or are being maintained by Recipient in accordance with Paragraph 6.

8. The Recipient remains bound by these provisions unless MISO rescinds the provisions or a court of competent jurisdiction finds that the information does not qualify as CEII.
9. MISO may reasonably audit the Recipient's compliance with this NDA.
10. Violation of this NDA will be reported to the Federal Energy Regulatory Commission (the "Commission") which in turn may result in criminal or civil sanctions against the Recipient.
11. I hereby certify my understanding that access to CEII is provided to me pursuant to the terms and restrictions of the above CEII provisions, that I have been given a copy of and have read the provisions, and that I agree to be bound by them. I understand that the contents of the CEII, any notes or other memoranda, or any other form of information that copies or discloses CEII shall not be disclosed to anyone other than another person who has been granted access to these same materials. I acknowledge that a violation of this NDA may result in criminal or civil sanctions, including the suspension of my ability to appear before the Commission pursuant to 18 C.F.R. § 385.2102. I agree that my compliance with this NDA is subject to reasonable audit by MISO.

By: \_\_\_\_\_

Signature

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Representing: \_\_\_\_\_

Date: \_\_\_\_\_

**ATTACHMENT E TO APPENDIX 1: SITE CONTROL DEMONSTRATION**

Midcontinent Independent System Operator, Inc.  
Attn: Manager, Queue Administration  
720 City Center Drive  
Carmel, IN 46032

**[Date]**

Subject: Proof of Site Control Affidavit

1. The undersigned (“Affiant”) is an officer or an agent of the Interconnection Customer for the Interconnection Request associated with **[Project Name]**.
2. Affiant affirms that all of the Site Control documents for **[Project Name]** required pursuant to Section 7.2 of Attachment X of the MISO Tariff are submitted to MISO in their entirety.
3. Affiant has reviewed all such Site Control documents submitted for **[Project Name]** and has personal knowledge of its contents.
4. Affiant hereby affirms that the Interconnection Customer **[PLEASE SELECT FROM THE FOLLOWING:**  
\_\_\_\_ **(1) possesses Site Control for (Project Name) in accordance with Sections 7.2.1.1 of this GIP; OR**  
\_\_\_\_ **(2) is presently subject to regulatory restrictions that preclude Interconnection Customer from obtaining Site Control for (Project Name) pursuant to Section 7.2.1.2 of this GIP].**
5. **[TO THE EXTENT THAT REGULATORY RESTRICTIONS PRECLUDE SITE CONTROL PURSUANT TO GIP SECTION 7.2.1.2]** In accordance with Section 7.2.1.2 of the GIP, attached hereto the affiant provides a description of conditions that

must be met in order to satisfy the regulatory restrictions and the anticipated time by which the Interconnection Customer expects to satisfy the regulatory restrictions.

Sincerely,

**[Affiant signature]**

**[Affiant printed name]**

**[Affiant title]**

**[Affiant company name]**

**APPENDIX 6 TO GIP**  
**GENERATOR INTERCONNECTION AGREEMENT (GIA)**

**THIS GENERATOR INTERCONNECTION AGREEMENT (“GIA”)** is made and entered into this \_\_\_\_ day of \_\_\_\_\_ 20\_\_, by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State/Commonwealth of \_\_\_\_\_ (“Interconnection Customer” with a Generating Facility), and \_\_\_\_\_, a [corporation] organized and existing under the laws of the State/Commonwealth of \_\_\_\_\_ (“Transmission Owner”), and the **Midcontinent Independent System Operator, Inc.**, a non-profit, non-stock corporation organized and existing under the laws of the State of Delaware (“Transmission Provider”). Interconnection Customer, Transmission Owner and Transmission Provider each may be referred to as a “Party,” or collectively as the “Parties.”

**RECITALS**

**WHEREAS**, Transmission Provider has functional control of the operations of the Transmission System, as defined herein, and is responsible for providing Transmission Service and Interconnection Service on the transmission facilities under its control; and

**WHEREAS**, Interconnection Customer intends to own, lease and/or control and operate the Generating Facility identified as a Generating Facility in Appendix A to this GIA; and

**WHEREAS**, Transmission Owner owns or operates the Transmission System, whose operations are subject to the functional control of Transmission Provider, to which Interconnection Customer desires to connect the Generating Facility, and may therefore be required to construct certain Interconnection Facilities and Network Upgrades, as set forth in this GIA; and

**WHEREAS**, Interconnection Customer, Transmission Owner and Transmission Provider



have agreed to enter into this GIA, and where applicable subject to Appendix H for a Provisional Generator Interconnection Agreement, for the purpose of interconnecting the Generating Facility with the Transmission System;

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein, it is agreed:

## ARTICLE 1. DEFINITIONS

When used in this GIA, terms with initial capitalization that are not defined in Article 1 shall have the meanings specified in the Article in which they are used. Those capitalized terms used in this GIA that are not otherwise defined in this GIA have the meaning set forth in the Tariff.

**10 kW Inverter Process** shall mean the procedure for evaluating an Interconnection Request for a certified inverter-based Small Generating Facility no larger than 10 kW that uses the screen set forth in Section 14.

**Adverse System Impact** shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

**Affected System** shall mean an electric transmission or distribution system or the electric system associated with an Existing Generating Facility or of a higher queued Generating Facility, which is an electric system other than the Transmission Owner's Transmission System that is affected by the Interconnection Request. An Affected System may or may not be subject to FERC jurisdiction.

**Affected System Operator** shall mean the entity that operates an Affected System.

**Affiliate** shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

**Ancillary Services** shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation

of the Transmission System in accordance with Good Utility Practice.

**Applicable Laws and Regulations** shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority having jurisdiction over the Parties, their respective facilities and/or the respective services they provide.

**Applicable Reliability Council** shall mean the Regional Entity of NERC applicable to the Local Balancing Authority of the Transmission System to which the Generating Facility is directly interconnected.

**Applicable Reliability Standards** shall mean Reliability Standards approved by the Federal Energy Regulatory Commission (FERC) under section 215 of the Federal Power Act, as applicable.

**Base Case** shall mean the base case power flow, short circuit, and stability databases used for the Interconnection Studies by Transmission Provider or Interconnection Customer.

**Base Case Data** shall mean base case power flow, short circuit and stability databases, including all underlying assumptions, and contingency lists. Such databases and lists, hereinafter referred to as Base Cases, shall include all (1) generation projects and (2) transmission projects, including merchant transmission projects that are proposed for the Transmission System for which a transmission expansion plan has been submitted and approved by the MISO Board.

**Breach** shall mean the failure of a Party to perform or observe any material term or condition of this GIA.

**Breaching Party** shall mean a Party that is in Breach of this GIA.

**Business Day** shall mean Monday through Friday, excluding Federal Holidays.

**Calendar Day** shall mean any day including Saturday, Sunday or a Federal Holiday. In the event that a period specified in this GIA is calculated in Calendar Days ends on a non-business day, such period shall be deemed to conclude on the following business day.

**Commercial Operation** shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

**Commercial Operation Date (COD)** of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to this GIA.

**Commitment Projection** shall mean a projection of the number of MW expected to commit to the JTIQ Portfolio from [ERAS and](#) all [DPP](#) study clusters that already have passed DP1 as described in Section 9.4.2.e.ii of Rate Schedule 6 (MISO SPP-JOA).

**Common Use Upgrade (CUU)** shall mean an Interconnection Facility, Network Upgrade, System Protection Facility, or any other classified addition, alteration, or improvement on the Transmission System or the transmission system of an Affected System, not classified under Attachment FF as a Baseline Reliability Project, Market Efficiency Project, or Multi-Value Project, that is needed for the interconnection of multiple Interconnection Customers' Generating Facilities and which is the shared responsibility of such Interconnection Customers.

**Confidential Information** shall mean any proprietary or commercially or competitively sensitive information, trade secret or information regarding a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, or any other information as specified in Article 22, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in

writing, through inspection, or otherwise, that is received by another Party.

**Connection Facilities** shall mean the Transmission Owner's Connection Facilities and the MHVDC Connection Customer's Connection Facilities, as defined in the MHCP.

**Contingent Facilities** shall mean those unbuilt Interconnection Facilities and Network Upgrades upon which the Interconnection Request's costs, timing and study findings are dependent, and if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing. Contingent Facilities may include facilities identified in MTEP that if delayed or not built could impact the timing of the Interconnection Request.

**Default** shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of this GIA.

**Definitive Planning Phase** shall mean the Generator Interconnection Procedures process which leads to a Generator Interconnection Agreement. An Interconnection Customer enters the Definitive Planning Phase pursuant to GIP Section 7.2. The Definitive Planning Phase includes three distinct phases (Definitive Planning Phases I, II, and III) pursuant to Section 7 of the Generator Interconnection Procedures.

**Definitive Planning Phase Queue Position** shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, in the Definitive Planning Phase. The Definitive Planning Phase Queue Position is established based upon the date Interconnection Customer satisfies all of the requirements of GIP Section 7.2 to enter the Definitive Planning Phase. All Interconnection Requests within the same Definitive Planning Phase cycle shall have equal priority (i.e. similarly queued).

**Demonstrated Capability** shall mean the continuous net real power output that the Generating Facility is required to demonstrate in compliance with Applicable Reliability

Standards.

**Dispute Resolution** shall mean the procedure for resolution of a dispute between or among the Parties in which they will first attempt to resolve the dispute on an informal basis.

**Distribution System** shall mean the Transmission Owner's facilities and equipment, or the Distribution System of another party that is interconnected with the Transmission Owner's Transmission System, if any, connected to the Transmission System, over which facilities Transmission Service or Wholesale Distribution Service under the Tariff is available at the time Interconnection Customer has requested interconnection of a Generating Facility for the purpose of either transmitting electric energy in interstate commerce or selling electric energy at wholesale in interstate commerce and which are used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among Local Balancing Authorities and other entities owning distribution facilities interconnected to the Transmission System.

**Distribution Upgrades** shall mean the additions, modifications, and upgrades to the Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the delivery service necessary to affect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

**Effective Date** shall mean the date on which this GIA becomes effective upon execution by the Parties subject to acceptance by the Commission, or if filed unexecuted, upon the date specified by the Commission.

**Emergency Condition** shall mean a condition or situation: (1) that in the reasonable judgment of the Party making the claim is imminently likely to endanger, or is contributing to the endangerment of, life, property, or public health and safety; or (2) that, in the case of either

Transmission Provider or Transmission Owner, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission System, Transmission Owner's Interconnection Facilities or the electric systems of others to which the Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and blackstart shall be considered Emergency Conditions; provided that Interconnection Customer is not obligated by this GIA to possess blackstart capability. Any condition or situation that results from lack of sufficient generating capacity to meet load requirements or that results solely from economic conditions shall not constitute an Emergency Condition, unless one of the enumerated conditions or situations identified in this definition also exists.

**Energy Displacement Agreement** shall mean an agreement between an Interconnection Customer with an Existing Generating Facility on the Transmission Provider's Transmission System and an Interconnection Customer with a proposed Generating Facility seeking to interconnect with Surplus Interconnection Service. The Energy Displacement Agreement specifies the term of operation, the Generating Facility Interconnection Service limit, and the mode of operation for energy production (common or singular operation).

**Energy Resource Interconnection Service (ER Interconnection Service)** shall mean an Interconnection Service that allows Interconnection Customer to connect its Generating Facility to the Transmission System or Distribution System, as applicable, to be eligible to deliver the Generating Facility's electric output using the existing firm or non-firm capacity of the Transmission System on an as available basis. Energy Resource Interconnection Service does not convey transmission service.

**Engineering & Procurement (E&P) Agreement** shall mean an agreement that authorizes Transmission Owner to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of

the Interconnection Request.

**Environmental Law** shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

**Existing Generating Facility** shall mean a Generating Facility that is either under construction or is in service, and has an unsuspended interconnection agreement with its host transmission provider.

**Expanded Scope Analysis** shall mean the analysis described in Section 9.4.2.d.iv.a of Rate Schedule 6 (MISO-SPP JOA).

**Expedited Resource Addition Study (ERAS)** shall mean the temporary procedure for expediting interconnection projects identified for claimed resource adequacy and/or reliability needs.

**Expedited Generator Interconnection Agreement (EGIA)** shall mean the interconnection agreement for the Expedited Resource Addition Study established between the Transmission Provider and/or the Transmission Owner and the Interconnection Customer as set forth in Section 3.9 of this Attachment X. This agreement shall take the form of the Transmission Provider's *pro forma* Generator Interconnection Agreement modified for the Expedited Resource Addition Study. Unless otherwise provided in the GIP, all requirements applicable to the *pro forma* Generator Interconnection Agreement shall apply to the Expedited Generator Interconnection Agreement.

**Facilities Construction Agreement (FCA)** shall mean the form of facilities construction agreement, set forth in Appendix 8 to these Generator Interconnection Procedures. The FCA shall be used when an Interconnection Customer causes the need for the construction of Network Upgrades or System Protection Facilities on the transmission system of an Affected System.



**Fast Track Process** shall mean the procedure for evaluating an Interconnection Request for a certified Small Generating Facility no larger than five MW that includes the screen set forth in Section 14, customer options meeting, and optional supplemental review.

**Federal Holiday** shall mean a Federal Reserve Bank holiday for a Party that has its principal place of business in the United States and a Canadian Federal or Provincial banking holiday for a Party that has its principal place of business located in Canada.

**Federal Power Act** shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a *et seq.*

**FERC** shall mean the Federal Energy Regulatory Commission, also known as Commission, or its successor.

**Final System Impact Study** shall mean the Interconnection System Impact Study performed during Definitive Planning Phase III.

**Force Majeure** shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include an act of negligence or intentional wrongdoing by the Party claiming Force Majeure.

**Generating Facility** shall mean Interconnection Customer's device(s) for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities. A Generating Facility consists of one or more generating unit(s) and/or storage device(s) which usually can operate independently and be brought online or taken offline individually.

**Generating Facility Capacity** shall mean the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple energy production devices.

**Generating Facility Modification** shall mean modification to an Existing Generating Facility, including comparable replacement of only a portion of its equipment at the Existing Generating Facility.

**Generating Facility Replacement** shall mean replacement of one or more generating units and/or storage devices at the Existing Generating Facility with one or more new generating units or storage devices at the same electrical Point of Interconnection as the generating units and/or storage devices that is/are being decommissioned and electrically disconnected.

**Generator Interconnection Agreement (GIA)** shall mean the form of interconnection agreement, set forth herein.

**Generator Interconnection Procedures (GIP)** shall mean the interconnection procedures set forth in Attachment X of the Tariff.

**Generator Upgrades** shall mean the additions, modifications, and upgrades to the electric system of an Existing Generating Facility or of a higher queued Generating Facility at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the Transmission Service necessary to affect Interconnection Customer's wholesale sale of electricity in interstate commerce.

**Good Utility Practice** shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and

expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

**Governmental Authority** shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer, Transmission Provider, Transmission Owner, or any Affiliate thereof.

**Group Study(ies)** shall mean the process whereby more than one Interconnection Request is studied together, instead of serially, for the purpose of conducting one or more of the required Studies.

**Hazardous Substances** shall mean any chemicals, materials or substances defined as or included in the definition of “hazardous substances,” “hazardous wastes,” “hazardous materials,” “hazardous constituents,” “restricted hazardous materials,” “extremely hazardous substances,” “toxic substances,” “radioactive substances,” “contaminants,” “pollutants,” “toxic pollutants” or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

**HVDC Facilities** shall mean the high voltage direct current transmission facilities, including associated alternating current facilities, if any, that are subject to Section 27A of the Tariff and that are specifically identified in (i) any Agency Agreement pertaining to such facilities between Transmission Provider and Transmission Owner that owns or operates such facilities, or (ii) in any other arrangement that permits or will permit Transmission Provider to provide HVDC Service over such facilities as set forth in Section 27A of the Tariff.

**HVDC Service** shall mean Firm and Non-Firm Point-To-Point Transmission Service provided by Transmission Provider on HVDC Facilities pursuant to Section 27A of the Tariff.

**Initial Synchronization Date** shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

**Injection Rights** shall mean the Transmission Provider's pre-certification of the Transmission System's capability to receive capacity and energy from the MHVDC Transmission Line at the requested Point of Connection, and in the specified MW quantity, without degrading the reliability of the Transmission System, as described in Section 16 of the GIP and Section 3.2.3 of the MHCP.

**In-Service Date (ISD)** shall mean the date upon which Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Owner's Interconnection Facilities to obtain backfeed power.

**Interconnection Customer** shall mean any entity, including Transmission Provider, Transmission Owner or any of the Affiliates or subsidiaries of either, that proposes to interconnect its Generating Facility with the Transmission System.

**Interconnection Customer Decision Point I** shall mean the time period beginning when the Interconnection Customer is provided the Preliminary System Impact Study results including cost estimates for upgrades and concludes after fifteen (15) Business Days.

**Interconnection Customer Decision Point II** shall mean the time period beginning when the Interconnection Customer is provided the Revised System Impact Study results including cost estimates for upgrades and the Affected Systems analysis results including cost estimates for upgrades on the Affected System and concludes after fifteen (15) Business Days.

**Interconnection Customer's Interconnection Facilities (ICIF)** shall mean all facilities and equipment, as identified in Appendix A of this GIA, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission System or Distribution System, as applicable. Interconnection Customer's Interconnection Facilities are sole use facilities.

**Interconnection Facilities** shall mean the Transmission Owner's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission System. Interconnection Facilities shall not include Distribution Upgrades, Generator Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Interconnection Facilities Study(ies)** shall mean a study conducted by Transmission Provider, or its agent, for Interconnection Customer to determine a list of facilities (including Transmission Owner's Interconnection Facilities, System Protection Facilities, and if such upgrades have been determined, Network Upgrades, Distribution Upgrades, Generator Upgrades, Common Use Upgrades, and upgrades on Affected Systems, as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Transmission System.

**Interconnection Facilities Study Agreement** shall mean the form of agreement contained in Appendix 4 of the Generator Interconnection Procedures for conducting the Interconnection Facilities Study.

**Interconnection Request** shall mean (1) an Interconnection Customer's request, in the form of Appendix 1 to the Generator Interconnection Procedures, to interconnect a new Generating Facility, [or a request for the Expedited Resource Addition Study for new generation](#)

[capacity](#), or to increase the capacity of, or make a Material Modification to the operating characteristics of, an Existing Generating Facility that is interconnected with the Transmission System, or to interconnect an Existing Generating Facility that is external to the Transmission System, or to change Energy Resource Interconnection Service to Network Resource Interconnection Service for an Existing Generating Facility; or (2) an MHVDC Connection Customer's request, in the form of Appendix 1 to the Generator Interconnection Procedures, to obtain Injection Rights..

**Interconnection Service** shall mean the service provided by Transmission Provider associated with interconnecting the Generating Facility to the Transmission System, or external host transmission provider if applicable, and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection pursuant to the terms of this Generator Interconnection Agreement or Point of Delivery as set forth in the Service Agreement for Network Resource Interconnection Service for an External Generating Facility and, if applicable, the Tariff.

**Interconnection Study (or Study)** shall mean any of the studies described in the Generator Interconnection Procedures.

**Interconnection Study Agreement** shall mean the form of agreement contained in Attachment B to Appendix 1 of the Generator Interconnection procedures for conducting all studies required by the Generator Interconnection Procedures.

**Interconnection System Impact Study** shall mean an engineering study that evaluates the impact of the proposed interconnection on the safety and reliability of Transmission System and, if applicable, an Affected System. The study shall identify and detail the system impacts that would result if the Generating Facility were interconnected without project modifications or system modifications, or to study potential impacts, including but not limited to those identified in the Scoping Meeting as described in the Generator Interconnection Procedures.

**Interconnection Study Agreement** shall mean the forms of agreement contained in Attachment B to Appendix 1 of the Generator Interconnection Procedures for conducting all studies required by the Generator Interconnection Procedures.

**IRS** shall mean the Internal Revenue Service.

**Joint Operating Agreement between the Midcontinent Independent System Operator, Inc. and Southwest Power Pool, Inc. (MISO-SPP JOA)** shall mean Rate Schedule 6 to the MISO Tariff.

**Joint Targeted Interconnection Queue (JTIQ)** shall refer to the study and processes described in Section 9.4.2 of Rate Schedule 6 (MISO-SPP JOA).

**Joint Targeted Interconnection Queue Study (“JTIQ Study”)** shall mean a transmission planning study conducted jointly by SPP and MISO to facilitate the interconnection of new generator capacity in both Parties’ regions.

**JTIQ Commitment Group Member** shall mean any JTIQ Commitment Group Member included in a Commitment Group consistent with Section 9.4 of Rate Schedule 6 (MISO-SPP JOA).

**JTIQ Commitment Group or Commitment Group** shall mean a group of JTIQ Commitment Group Members that have executed a JTIQ Generator Interconnection Agreement within the twelve (12) month period ending April 30<sup>th</sup> of each year. The Commitment Group shall also include JTIQ Commitment Group Members for which a JTIQ Generator Interconnection Agreement has been filed unexecuted by SPP or the Transmission Provider and the Commission has accepted the agreement within the twelve (12) month period ending April 30<sup>th</sup> of each year.

**JTIQ Generator Charge** shall mean the charge to JTIQ Commitment Group Members

to recover the JTIQ Commitment Group Member's share of the JTIQ Monthly Revenue Requirement for each of the JTIQ Upgrades in the JTIQ Portfolio in the Transmission Provider's Region.

**JTIQ Participation Group** shall mean the group of Interconnection Requests that shall consist of all interconnection customers included in the JTIQ Screening Groups whose interconnection request meets the distribution factor and impact criteria specified in Section 9.4.2(d)(ii) of Rate Schedule 6 (MISO-SPP JOA).

**JTIQ Portfolio** shall mean a group of JTIQ Upgrades identified pursuant to Section 9.4 of Rate Schedule 6 (MISO-SPP JOA).

**JTIQ Screening Group** shall mean a group of MISO Interconnection Customers and SPP interconnection customers whose Interconnection Requests will be screened for inclusion in a JTIQ Participation Group. The JTIQ Screening Group shall consist of all interconnection customers who have submitted interconnection requests into a MISO [ERAS](#), [SPP ERAS](#), DPP study cluster, or SPP DISIS study cluster that: (1) has a study commencement or kick off date that is after the date that the Parties' respective Boards of Directors have approved a JTIQ Portfolio; and (2) has not commenced DPP Phase I, [a MISO ERAS](#), [the SPP ERAS](#) or DISIS Phase One studies pursuant to each party's OATT as of the date that the Parties have declared the JTIQ Portfolio fully subscribed.

**JTIQ Service Agreements** shall mean the JTIQ Commitment Agreement attached to the MISO GIA as Appendix 17 and the SPP's *pro forma* agreement(s) that obligate interconnection customers to provide security for and pay the JTIQ Generator Charge for JTIQ Network Upgrades included in the applicable JTIQ Portfolio.

**JTIQ Upgrade** shall mean a Network Upgrade included in a JTIQ portfolio pursuant to Section 9.4 of Rate Schedule 6 (MISO-SPP JOA).



**Local Balancing Authority** shall mean an operational entity or a Joint Registration Organization which is (i) responsible for compliance with the subset of NERC Balancing Authority Reliability Standards defined in the Balancing Authority Agreement for their local area within the MISO Balancing Authority Area, (ii) a Party to Balancing Authority Agreement, excluding MISO, and (iii) provided in the Balancing Authority Agreement.

**Local Resource Zone (LRZ)** shall mean a geographic area within the Transmission Provider Region that is prescribed by the Transmission Provider, based upon the criteria in Section 68A.3, to address congestion that limits Planning Resource deliverability.

**Loss** shall mean any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under this GIA on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing, by the indemnified party.

**Material Modification** shall mean: (1) modification to an Interconnection Request in the queue, that has a material adverse impact on the cost or timing of any other Interconnection Request with a later queue priority date; or Qualified Change.

**Metering Equipment** shall mean all metering equipment installed or to be installed at the Generating Facility, Interconnection Customer's Interconnection Facilities, and/or Transmission Owner's Interconnection Facilities pursuant to this GIA at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

**Monitoring and Consent Agreement** shall mean an agreement that defines the terms and conditions applicable to a Generating Facility acquiring Surplus Interconnection Service. The Monitoring and Consent Agreement will list the roles and responsibilities of an

Interconnection Customer seeking to interconnect with Surplus Interconnection Service and Transmission Owner to maintain the total output of the Generating Facility inside the parameters delineated in the GIA.

**Multi-Party Facilities Construction Agreement (MPFCA)** shall mean the form of facilities construction agreement, set forth in Appendix 9 to these Generator Interconnection Procedures. The MPFCA shall be used when multiple Interconnection Requests cause the need for the construction of Common Use Upgrades on the Transmission System or the transmission system of an Affected System and share cost responsibility for such Common Use Upgrades.

**NERC** shall mean the North American Electric Reliability Corporation or its successor organization.

**Network Customer** shall have that meaning as provided in the Tariff.

**Network Resource** shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

**Network Resource Interconnection Service (NR Interconnection Service)** shall mean an Interconnection Service that allows Interconnection Customer to integrate its Generating Facility with the Transmission System in the same manner as for any Generating Facility being designated as a Network Resource. Network Resource Interconnection Service does not convey transmission service. Network Resource Interconnection Service shall include any network resource interconnection service established under an agreement with, or the tariff of, a Transmission Owner prior to integration into MISO, that is determined to be deliverable through the integration deliverability study process.

**Network Upgrades** shall mean the additions, modifications, and upgrades to the

Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission System or Distribution System, as applicable, to accommodate the interconnection of the Generating Facility(ies) to the Transmission System. Network Upgrades shall not include any HVDC Facility Upgrades.

**Notice of Dispute** shall mean a written notice of a dispute or claim that arises out of or in connection with this GIA or its performance.

**Optional Interconnection Study** shall mean a sensitivity analysis based on assumptions specified by Interconnection Customer in the Optional Interconnection Study Agreement.

**Optional Interconnection Study Agreement** shall mean the form of agreement contained in Appendix 5 of the Generator Interconnection Procedures for conducting the Optional Interconnection Study.

**Outage Transfer Distribution Factor (OTDF)** Outage Transfer Distribution Factor, as defined by NERC.

**Party or Parties** shall mean Transmission Provider, Transmission Owner, Interconnection Customer, or any combination of the above.

**Permissible Technological Advancement** shall mean advancements to turbines, inverters, plant supervisory controls, excitation systems, or other technological advancements submitted to the Transmission Provider prior to the issuance of this draft Generator Interconnection Agreement for such project provided that such advancements does not: (1) degrade the electrical characteristics of the generating equipment; (2) does not cause any material adverse impact on the Transmission System with regard to short circuit capability limits, steady-state thermal and voltage limits, or dynamic system stability and response; (3) does not increase the installed capacity of the Generating Facility; or (4) change the fuel source of the proposed

Generating Facility.

**Point of Change of Ownership (PCO)** shall mean the point, as set forth in Appendix A to the Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Owner's Interconnection Facilities.

**Point of Interconnection (POI)** shall mean the point, as set forth in Appendix A of the GIA, where the Interconnection Facilities connect to the Transmission System.

**Potential MW Total** shall mean a projection of the number of MW that may commit to the JTIQ Portfolio from all [ERAS and](#) study clusters to date, including the current study cluster(s).

**Preliminary System Impact Study** shall mean the Interconnection System Impact Study performed during Definitive Planning Phase I.

**Pre-Queue Phase** shall mean Interconnection Customer outreach and education effort undertaken prior to the submission of the Interconnection Request.

**Provisional Generator Interconnection Agreement** shall mean the interconnection agreement for Provisional Interconnection Service established between the Transmission Provider and/or the Transmission Owner and the Interconnection Customer as set forth in Section 7.9 of this Attachment X. This agreement shall take the form of the Generator Interconnection Agreement modified for provisional purposes. Unless otherwise provided in the GIP, all requirements applicable to the Generator Interconnection Agreement shall apply to the Provisional Generator Interconnection Agreement.

**Provisional Interconnection Service** shall mean Interconnection Service provided by the Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to the Transmission Provider's Transmission System and enabling that

Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Provisional Generator Interconnection Agreement and the Tariff.

**Provisional Interconnection Study** shall mean an engineering study, performed at Interconnection Customer's request, as a condition to entering into a Provisional Generator Interconnection Agreement, that evaluates the impact of the proposed interconnection on the safety and reliability of the Transmission System and, if applicable, any Affected System. The study shall identify and detail the impacts on the Transmission System and, if applicable, an Affected System, from stability, short circuit, and voltage issues that would result if the Generating Facility were interconnected without project modifications or system modifications.

**Qualified Change** shall mean a planned modification to an Existing Generating Facility that is undergoing evaluation for a Generating Facility Modification or Generating Facility Replacement, and has a material adverse impact on the Transmission System with respect to: i) steady-state thermal or voltage limits, ii) dynamic system stability and response, or iii) short-circuit capability limit; compared to the impacts of the Existing Generating Facility prior to the modification or replacement.

**Queue Position** shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests. The Queue Position is established based upon the date and time of receipt of the valid Interconnection Request by Transmission Provider.

**Reasonable Efforts** shall mean, with respect to an action required to be attempted or taken by a Party under this Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

**Relevant Electric Retail Regulatory Authority (RERRA)** shall mean an entity that has jurisdiction over and establishes prices and/or policies for providers of retail electric service to

end-customers, such as the city council for a municipal utility, the governing board of a cooperative utility, the state public utility commission or any such entity.

**Reliability Assessment Study** shall mean an engineering study that evaluates the impact of a proposed Generating Facility Replacement on the reliability of Transmission System during the time period between the date that the Existing Generating Facility ceases commercial operations and the Commercial Operation Date of the Replacement Generating Facility.

**Replacement Generating Facility** shall mean a Generating Facility that replaces an Existing Generating Facility, or a portion thereof, at the same electrical Point of Interconnection pursuant to Section 3.7 of this Attachment X.

**Replacement Impact Study** shall mean an engineering study that evaluates the impact of a proposed Generating Facility Replacement on the reliability of the Transmission System.

**Revised System Impact Study** shall mean the Interconnection System Impact Study performed during Definitive Planning Phase II.

**Scoping Meeting** shall mean the meeting between representatives of Interconnection Customer, Transmission Owner, Affected System Operator(s) and Transmission Provider conducted for the purpose of discussing alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

**Shared Network Upgrade** shall mean a Network Upgrade or Common Use Upgrade that is funded by an Interconnection Customer(s), including when the Transmission Owner elects to fund the capital cost of such a Network Upgrade or Common Use Upgrade under Section 11.3 of the GIA, and also benefits other Interconnection Customer(s) that are later identified as beneficiaries.

**Site Control** shall mean a documented right for one or more parcels of land for the purpose of constructing a Generating Facility, Interconnection Customer's Interconnection Facilities, and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), the Transmission Owner's Interconnection Facilities and Network Upgrades at the POI that the Interconnection Customer will develop. Such documented right shall be one of the following: (1) ownership of a site; (2) a leasehold interest in a site; or (3) an option to purchase or acquire a leasehold interest in a site; or (4) any other contractual or legal right to possess or occupy a site.

**Small Generating Facility** shall mean a Generating Facility that has an aggregate net Generating Facility Capacity of no more than five MW and meets the requirements of Section 14 and Appendix 3 of the GIP.

**Southwest Power Pool (SPP)** shall refer to the Southwest Power Pool, Inc. the Regional Transmission Organization that is the counterparty to Rate Schedule 6 (MISO-SPP JOA).

**Special Protection System (SPS)** shall mean an automatic protection system or remedial action scheme designed to detect abnormal or predetermined system conditions, and take corrective actions other than and/or in addition to the isolation of faulted components, to maintain system reliability. Such action may include changes in demand (MW and MVar), energy (MWh and MVarh), or system configuration to maintain system stability, acceptable voltage, or power flows. An SPS does not include (a) underfrequency or undervoltage load shedding, (b) fault conditions that must be isolated, (c) out-of-step relaying not designed as an integral part of an SPS, or (d) Transmission Control Devices.

**Stand Alone Network Upgrades** shall mean Network Upgrades, that are not part of an Affected System or a JTIQ Upgrade, that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Transmission Provider, Transmission Owner and Interconnection Customer must agree as to

what constitutes Stand Alone Network Upgrades and identify them in Appendix A to this GIA. If the Transmission Provider or Transmission Owner and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Provider or Transmission Owner that disagrees with the Interconnection Customer must provide the Interconnection Customer a written technical explanation outlining why the Transmission Provider or Transmission Owner does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

**Supplemental Affected System Analysis** shall mean the affected systems analysis described in Section 7.3.2.3.1 of this GIP and Section 9.4.2.e.iii.a.i of the Rate Schedule 6 (MISO-SPP JOA) to determine if Supplemental Affected System Upgrades are required for one or more JTIQ Participation Group member(s).

**Supplemental Affected System Upgrade** shall mean a Network Upgrade in addition to those required to address the impact of interconnection requests in the current study cluster as described in Section 9.4.2.e.iii.a.i of Rate Schedule 6 (MISO-SPP-JOA).

**Surplus Interconnection Service** shall mean any Interconnection Service that is derived from the unneeded portion of Interconnection Service established in a GIA or in agreement with, or under the tariff of, a Transmission Owner prior to integration into MISO, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same.

**System Planning and Analysis Phase** shall mean the phase of the Generator Interconnection Procedure process, prior to January 4, 2017, which consisted of an Interconnection System Impact Study for those Interconnection Requests that were studied in this phase.

**System Protection Facilities** shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Transmission System or other



delivery systems or other generating systems from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the Transmission System or on other delivery systems or other generating systems to which the Transmission System is directly connected.

**Target MW Value** shall mean the projected new generation interconnection MW enabled by the JTIQ Portfolio. The Target MW Value for each JTIQ Portfolio shall be identified in Section 9.4 and related subsections of Rate Schedule 6.

**Tariff** shall mean the Transmission Provider's Tariff through which open access transmission service and Interconnection Service are offered, as filed with the Commission, and as amended or supplemented from time to time, or any successor tariff.

**Threshold Charge** shall mean the charge calculated using an estimate of plant in service value for the JTIQ Portfolio, excluding amounts funded under the GRIP Program, as described in Section 9.4.2 of Rate Schedule 6 (MISO-SPP JOA).

**Transmission Control Devices** shall mean a generally accepted transmission device that is planned and designed to provide dynamic control of electric system quantities, and are usually employed as solutions to specific system performance issues. Examples of such devices include fast valving, high response exciters, high voltage DC links, active or real power flow control and reactive compensation devices using power electronics (*e.g.*, unified power flow controllers), static var compensators, thyristor controlled series capacitors, braking resistors, and in some cases mechanically-switched capacitors and reactors. In general, such systems are not considered to be Special Protection Systems.

**Transmission Owner** shall mean that Transmission Owner as defined in the Tariff, which includes an entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at which Interconnection Customer proposes to interconnect or otherwise integrate the operation of the Generating Facility. Transmission Owner should be read to include

any Independent Transmission Company that manages the transmission facilities of Transmission Owner and shall include, as applicable, the owner and/or operator of distribution facilities interconnected to the Transmission System, over which facilities transmission service or Wholesale Distribution Service under the Tariff is available at the time Interconnection Customer requests Interconnection Service and to which Interconnection Customer has requested interconnection of a Generating Facility for the purpose of either transmitting electric energy in interstate commerce or selling electric energy at wholesale in interstate commerce.

**Transmission Provider** shall mean the Midcontinent Independent System Operator, Inc. (“MISO”), the Regional Transmission Organization that controls or operates the transmission facilities of its transmission-owning members used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff.

**Transmission Owner’s Interconnection Facilities (TOIF)** shall mean all facilities and equipment owned by Transmission Owner from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to this GIA, including any modifications, additions or upgrades to such facilities and equipment. Transmission Owner’s Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Generator Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Transmission System** shall mean the facilities owned by Transmission Owner and controlled or operated by Transmission Provider or Transmission Owner that are used to provide Transmission Service (including HVDC Service) or Wholesale Distribution Service under the Tariff.

**Trial Operation** shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

**Variable Energy Resource** shall mean a device for the production of electricity that is

characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator.

**Wholesale Distribution Service** shall have that meaning as provided in the Tariff. Wherever the term “transmission delivery service” is used, Wholesale Distribution Service shall also be implied.

## ARTICLE 2. EFFECTIVE DATE, TERM AND TERMINATION

**2.1 Effective Date.** This GIA shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by FERC. Transmission Provider shall promptly file this GIA with FERC upon execution in accordance with Article 3.1, if required.

**2.2 Term of Agreement.** Subject to the provisions of Article 2.3, this GIA shall remain in effect for a period of \_\_\_\_\_ years from the Effective Date and shall be automatically renewed for each successive one-year period thereafter on the anniversary of the Effective Date.

**2.3 Termination Procedures.** This GIA may be terminated as follows:

**2.3.1 Written Notice.** This GIA may be terminated by Interconnection Customer after giving Transmission Provider and Transmission Owner ninety (90) Calendar Days advance written notice. This GIA shall be terminated by Transmission Provider if the Generating Facility or a portion of the Generating Facility fails to achieve Commercial Operation by the Commercial Operation Date established in accordance with Section 4.4.4 of Attachment X, including any extension provided thereunder, or has ceased Commercial Operation for three (3) consecutive years, beginning with the last date of Commercial Operation for the Generating Facility, after giving Interconnection Customer ninety (90) Calendar Days advance written notice. Where only a portion of the Generating Facility fails to achieve Commercial Operation by the Commercial Operation Date established in accordance with Section 4.4.4 of Attachment X, including any extension provided thereunder, Transmission Provider shall only terminate that portion of the GIA. Notwithstanding the foregoing, in the limited circumstance that the Interconnection Request is served by a contingent Network Upgrade with an in-service date that is farther out than the Commercial Operation Date permitted

under Section 4.4.4 of Attachment X, Transmission Provider shall only terminate this GIA for failure to achieve Commercial Operation by that later in-service date of the contingent Network Upgrade. The Generating Facility will not be deemed to have ceased Commercial Operation for purposes of this Article 2.3.1 if Interconnection Customer can document that it has taken other significant steps to maintain or restore operational readiness of the Generating Facility for the purpose of returning the Generating Facility to Commercial Operation as soon as possible.

**2.3.1.1 Surplus Interconnection Service.** Where this GIA provides for Surplus Interconnection Service and the Energy Displacement Agreement or the Monitoring and Consent Agreement required for Surplus Interconnection Service are no longer in effect, Interconnection Customer shall immediately cease Commercial Operation of the Generating Facility and this GIA shall be deemed terminated. In the event that the Existing Generating Facility retires and/or permanently ceases commercial operation, the Surplus Interconnection Service provided under this GIA shall terminate except as provided in Section 3.3.1.3 of the GIP.

**2.3.2 Default.** Any Party may terminate this GIA in accordance with Article 17.

**2.3.3** Notwithstanding Articles 2.3.1 and 2.3.2, no termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this GIA, if required, which notice has been accepted for filing by FERC.

[For EGIs, no termination shall become effective until Interconnection Customer has provided all security as required by Section 2.4.](#)

**2.4 Termination Costs.** If a Party elects to terminate this GIA pursuant to Article 2.3 above, each Party shall pay all costs incurred for which that Party is responsible (including any cancellation costs relating to orders or contracts for Interconnection Facilities, applicable upgrades, and related equipment) or charges assessed by the other Parties, as of the date of the other Parties' receipt of such notice of termination, under this GIA. In the event that this GIA is terminated by Interconnection Customer, Interconnection Customer is responsible for all financial impact that is caused as a result of this termination or the termination of Interconnection Customer's FCA(s) or MPFCA(s), such financial impact being determined through the financial impact analysis performed in accordance with Section 7.8 of Attachment X. In the event of termination by a Party, the Parties shall use commercially Reasonable Efforts to mitigate the costs, damages and charges arising as a consequence of termination. Upon termination of this GIA, unless otherwise ordered or approved by FERC:

In the event that this EGIA is terminated by Interconnection Customer that had an Interconnection Request studied in ERAS, Interconnection Customer is responsible for the full cost of all Network Upgrades identified in this EGIA as well as any Network Upgrades identified during the ERAS process that are to be memorialized in an agreement other than this EGIA, including any applicable FCA, MPFCA, or JTIQ Service Agreements. If the Network Upgrade costs for Network Upgrades subject to an FCA, MPFCA, or JTIQ Service Agreement have not been finalized or the Interconnection Customer has not made the payment under such agreement as of the date that termination of this EGIA is sought, Interconnection Customer shall provide the payment or security for such Network Upgrades in the amount required by the applicable agreement. If such agreement has not been executed and final costs are not available as of a date that termination is sought, Interconnection Customer shall provide such payment or security in an amount corresponding to the most recent estimate provided by the Transmission Provider during the ERAS process. Interconnection Customer shall pay or Transmission Provider shall refund, as applicable, to Interconnection Customer the difference between

the amount of any estimated payment or security made pursuant to this Article and the final cost of such NU within ninety (90) Calendar Days after such final costs are invoiced to the Interconnection Customer.

**2.4.1** With respect to any portion of the Transmission Owner's Interconnection Facilities, Network Upgrades, System Protection Facilities, Distribution Upgrades, Generator Upgrades, and if so determined and made a part of this GIA, upgrades on Affected Systems, that have not yet been constructed or installed, Transmission Owner shall to the extent possible and to the extent of Interconnection Customer's written notice under Article 2.3.1, cancel any pending orders of, or return, any materials or equipment for, or contracts for construction of, such facilities; provided that in the event Interconnection Customer elects not to authorize such cancellation, Interconnection Customer shall assume all payment obligations with respect to such materials, equipment, and contracts, and Transmission Owner shall deliver such material and equipment, and, if necessary, assign such contracts, to Interconnection Customer as soon as practicable, at Interconnection Customer's expense. To the extent that Interconnection Customer has already paid Transmission Owner for any or all such costs of materials or equipment not taken by Interconnection Customer or upgrades not yet constructed, Transmission Owner shall promptly transfer such amounts to Transmission Provider, less any costs, including penalties incurred by Transmission Owner to cancel any pending orders of or return such materials, equipment, or contracts. Transmission Provider will perform a financial impact analysis in accordance with Section 7.8 of Attachment X to determine the amount that should be refunded to Interconnection Customer. Transmission Provider shall refund such remaining amounts to Interconnection Customer, less the amount of Automatic Withdrawal Penalty funds received by the Interconnection Customer in accordance with Section 7.8.1 of the Attachment X and less any financial impact caused by the termination of this GIA or Interconnection Customer's FCA(s) or MPFCA(s), as determined through the analysis performed in accordance with

Section 7.8 of Attachment X. If Interconnection Customer made its payment(s) through a letter of credit, surety bond, or parental guarantee, Transmission Owner will draw against that letter of credit, surety bond, or parental guarantee in an amount determined through the analysis performed in accordance with Section 7.8 of Attachment X plus the amount of any Automatic Withdrawal Penalty funds received by the Interconnection Customer in accordance with Section 7.8.1 of the Attachment X, and transfer that amount to Transmission Provider, unless Interconnection Customer funds the financial impact through another means.

If an Interconnection Customer terminates this GIA, it shall be responsible for all costs incurred in association with that Interconnection Customer's interconnection, including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment, and other expenses including any upgrades or related equipment for which Transmission Owner has incurred expenses and has not been reimbursed by Interconnection Customer.

**2.4.2** Transmission Owner may, at its option, retain any portion of such materials, equipment, or facilities that Interconnection Customer chooses not to accept delivery of, in which case Transmission Owner shall be responsible for all costs associated with procuring such materials, equipment, or facilities. If Transmission Owner does not so elect, then Interconnection Customer shall be responsible for such costs.

**2.4.3** With respect to any portion of the Interconnection Facilities, and any other facilities already installed or constructed pursuant to the terms of this GIA, Interconnection Customer shall be responsible for all costs associated with the removal, relocation, reconfiguration or other disposition or retirement of such materials, equipment, or facilities, and such other expenses actually incurred by Transmission Owner necessary to return the Transmission, Distribution or Generator System, as applicable, to safe and reliable operation.



- 2.5 Disconnection.** Upon termination of this GIA, the Parties will take all appropriate steps to disconnect the Generating Facility from the Transmission or Distribution System, as applicable. All costs required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from the non-terminating Party's Default of this GIA or such non-terminating Party otherwise is responsible for these costs under this GIA.
- 2.6 Survival.** This GIA shall continue in effect after termination to the extent necessary to provide for final billings and payments and for costs incurred hereunder, including billings and payments pursuant to this GIA; to permit the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this GIA was in effect; and to permit each Party to have access to the lands of the other Party pursuant to this GIA or other applicable agreements, to disconnect, remove or salvage its own facilities and equipment.

### ARTICLE 3. REGULATORY FILINGS

- 3.1 Filing.** Transmission Provider shall file this GIA (and any amendment hereto) with the appropriate Governmental Authority, if required. A Party may request that any information so provided be subject to the confidentiality provisions of Article 22. If that Party has executed this GIA, or any amendment thereto, the Party shall reasonably cooperate with Transmission Provider with respect to such filing and to provide any information reasonably requested by Transmission Provider needed to comply with applicable regulatory requirements.

### ARTICLE 4. SCOPE OF SERVICE

- 4.1 Interconnection Product Options.** Interconnection Customer has selected the following (checked) type of Interconnection Service:

Check: \_\_\_\_\_ SI or \_\_\_\_\_ ER and/or \_\_\_\_\_ NR (See Appendix A for details)

#### **4.1.1 Energy Resource Interconnection Service (ER Interconnection Service).**

**4.1.1.1 The Product.** ER Interconnection Service allows Interconnection Customer to connect the Generating Facility to the Transmission or Distribution System, as applicable, and be eligible to deliver the Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. To the extent Interconnection Customer wants to receive ER Interconnection Service, Transmission Owner shall construct facilities consistent with the studies identified in Appendix A.

An Interconnection Customer seeking ER Interconnection Service for new or added capacity at a Generating Facility may be granted conditional ER Interconnection Service status to the extent there is such capacity available on the Transmission System to accommodate the Interconnection Customer's Generating Facility. At the request of Interconnection Customer, conditional ER Interconnection Service status may be granted subject to the system being able to accommodate the interconnection without upgrades, until such time as a higher queued project(s) with a later service date affecting the same common elements is placed into service. The conditional ER Interconnection Service shall be terminated in the event Interconnection Customer fails to fund the necessary studies and the Network Upgrades necessary to grant the Interconnection Customer's ER Interconnection Service upon the completion of higher queued projects involving the same common elements.

**4.1.1.2 Transmission Delivery Service Implications.** Under ER

Interconnection Service, Interconnection Customer will be eligible to inject power from the Generating Facility into and deliver power across the Transmission System on an “as available” basis up to the amount of MW identified in the applicable stability and steady state studies to the extent the upgrades initially required to qualify for ER Interconnection Service have been constructed. After that date FERC makes effective MISO’s Energy Market Tariff filed in Docket No. ER04-691-000, Interconnection Customer may place a bid to sell into the market up to the maximum identified Generating Facility output, subject to any conditions specified in the Interconnection Service approval, and the Generating Facility will be dispatched to the extent the Interconnection Customer’s bid clears. In all other instances, no transmission or other delivery service from the Generating Facility is assured, but Interconnection Customer may obtain Point-To-Point Transmission Service, Network Integration Transmission Service or be used for secondary network transmission service, pursuant to the Tariff, up to the maximum output identified in the stability and steady state studies. In those instances, in order for Interconnection Customer to obtain the right to deliver or inject energy beyond the Point of Interconnection or to improve its ability to do so, transmission delivery service must be obtained pursuant to the provisions of the Tariff. The Interconnection Customer’s ability to inject its Generating Facility output beyond the Point of Interconnection, therefore, will depend on the existing capacity of the Transmission or Distribution System as applicable, at such time as a Transmission Service request is made that would accommodate such delivery. The provision of Firm Point-To-Point Transmission Service or Network Integration Transmission Service may require the construction of additional Network or Distribution Upgrades.

#### **4.1.2 Network Resource Interconnection Service (NR Interconnection Service).**

**4.1.2.1 The Product.** Transmission Provider must conduct the necessary studies and Transmission Owner shall construct the facilities identified in Appendix A of this GIA, subject to the approval of Governmental Authorities, needed to integrate the Generating Facility in the same manner as for any Generating Facility being designated as a Network Resource.

**4.1.2.2 Transmission Delivery Service Implications.** NR Interconnection Service allows the Generating Facility to be designated by any Network Customer under the Tariff on the Transmission System as a Network Resource, up to the Generating Facility's full output, on the same basis as existing Network Resources that are interconnected to the Transmission or Distribution System, as applicable, and to be studied as a Network Resource on the assumption that such a designation will occur. Although NR Interconnection Service does not convey a reservation of Transmission Service, any Network Customer can utilize Network Integration Transmission Service under the Tariff to obtain delivery of energy from the Generating Facility in the same manner as it accesses Network Resources. A Generating Facility receiving NR Interconnection Service may also be used to provide Ancillary Services after technical studies and/or periodic analyses are performed with respect to the Generating Facility's ability to provide any applicable Ancillary Services, provided that such studies and analyses have been or would be required in connection with the provision of such Ancillary Services by any existing Network Resource. However, if the Generating Facility has not been designated as a Network Resource by any Network Customer, it cannot be required to provide Ancillary Services except to the extent such requirements extend to all generating

facilities that are similarly situated. The provision of Network Integration Transmission Service or Firm Point-To-Point Transmission Service may require additional studies and the construction of additional upgrades. Because such studies and upgrades would be associated with a request for delivery service under the Tariff, cost responsibility for the studies and upgrades would be in accordance with FERC's policy for pricing transmission delivery services.

NR Interconnection Service does not necessarily provide Interconnection Customer with the capability to physically deliver the output of its Generating Facility to any particular load on the Transmission System without incurring congestion costs. In the event of transmission or distribution constraints on the Transmission or Distribution System, as applicable, the Generating Facility shall be subject to the applicable congestion management procedures in the Transmission System in the same manner as Network Resources.

There is no requirement either at the time of study or interconnection, or at any point in the future, that the Generating Facility be designated as a Network Resource by a Network Customer or that Interconnection Customer identify a specific buyer (or sink). To the extent a Network Customer does designate the Generating Facility as a Network Resource, it must do so pursuant to the Tariff.

Once an Interconnection Customer satisfies the requirements for obtaining NR Interconnection Service, any future Transmission Service request for delivery from the Generating Facility within the Transmission System of any amount of capacity and/or energy, up to the amount initially studied, will not require that any additional studies be performed or that any further upgrades associated with such Generating

Facility be undertaken, regardless of whether such Generating Facility is ever designated by a Network Customer as a Network Resource and regardless of changes in ownership of the Generating Facility. To the extent Interconnection Customer enters into an arrangement for long term Transmission Service for deliveries from the Generating Facility to customers other than the studied Network Customers, or for any Point-To-Point Transmission Service, such request may require additional studies and upgrades in order for Transmission Provider to grant such request. However, the reduction or elimination of congestion or redispatch costs may require additional studies and the construction of additional upgrades.

To the extent Interconnection Customer enters into an arrangement for long term Transmission Service for deliveries from the Generating Facility outside the Transmission System, such request may require additional studies and upgrades in order for Transmission Provider to grant such request.

**4.1.2.3 Conditional NR Interconnection Service.** An Interconnection Customer seeking NR Interconnection Service for new or added capacity at a Generating Facility may be granted conditional NR Interconnection Service status to the extent there is such capacity available on the Transmission System to accommodate the Interconnection Customer's Generating Facility. At the request of Interconnection Customer, conditional NR Interconnection Service status may be granted subject to the system being able to accommodate the interconnection without upgrades, until such time as higher queued project(s) with a later service date affecting the same common elements is placed into service. The conditional NR Interconnection Service status may be converted to ER Interconnection Service if either of the following occurs:

- 1) Interconnection Customer fails to fund necessary studies and Network Upgrades required to allow the Interconnection Customer's Generating Facility to receive NR Interconnection Service upon the completion of higher queued projects involving the same common elements; or
- 2) The higher queued project(s) or planned and required Network Upgrades are placed in service and the Network Upgrades required to provide NR Interconnection Service status to the Interconnection Customer's Generating Facility are not in service.

In the event Interconnection Customer fails to fund the necessary studies and Network Upgrades for NR Interconnection Service, the Interconnection Customer's conditional NR Interconnection Service status shall be converted to ER Interconnection Service status unless Interconnection Customer makes a new Interconnection Request. Such new Interconnection Request shall be evaluated in accordance with the GIP and its new queue position.

Some or all of the conditional NR Interconnection Service status may be temporarily revoked if the Network Upgrades are not in service when the higher queued project(s) are placed in service. The availability of conditional NR Interconnection Service status will be determined by Transmission Provider's studies. Upon funding and completion of the Network Upgrades required to establish the Generating Facility's NR Interconnection Service status, the Generating Facility will be granted NR Interconnection Service status.

The Parties agree that the portion of the Generating Facility classified as

NR Interconnection Service is the first portion of the output of the combined output of all the units at the Generating Facility except in circumstances where Interconnection Customer otherwise elects this GIA, as amended, to allocate that portion to the output of specific unit(s) at the Generating Facility, the total of which will not exceed the output eligible for NR Interconnection Service as shown by the additional studies. To the extent Interconnection Customer desires to obtain NR Interconnection Service for any portion of the Generating Facility in addition to that supported by such additional studies, Interconnection Customer will be required to request such additional NR Interconnection Service through a separate Interconnection Request in accordance with the GIP.

#### **4.1.3 Surplus Interconnection Service (SI).**

**4.1.3.1 The Product.** Surplus Interconnection Service is restricted Interconnection Service that allows an Interconnection Customer to increase the gross generating capability at the same Point of Interconnection of an Existing Generating Facility without increasing the total amount of Interconnection Service at the Point of Interconnection.

**4.1.3.2 Transmission Delivery Service Implications.** Surplus Interconnection Service does not convey any right to deliver electricity to any specific customer or Point of Delivery.

**4.2 Provision of Service.** Transmission Provider shall provide Interconnection Service for the Generating Facility at the Point of Interconnection.

**4.3 Performance Standards.** Each Party shall perform all of its obligations under this GIA in accordance with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice. To the extent a Party is required or prevented or limited in



taking any action by such regulations and standards, or if the obligations of any Party may become limited by a change in Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice after the execution of this GIA, that Party shall not be deemed to be in Breach of this GIA for its compliance therewith. The Party so limited shall notify the other Parties whereupon Transmission Provider shall amend this GIA in concurrence with the other Parties and submit the amendment to the Commission for approval.

- 4.4 No Transmission Delivery Service.** The execution of this GIA does not constitute a request for, or the provision of, any transmission delivery service under the Tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery.
- 4.5 Interconnection Customer Provided Services.** The services provided by Interconnection Customer under this GIA are set forth in Article 9.6 and Article 13.4.1. Interconnection Customer shall be paid for such services in accordance with Article 11.7.

## **ARTICLE 5. INTERCONNECTION FACILITIES ENGINEERING, PROCUREMENT, AND CONSTRUCTION**

- 5.1 Options.** Unless otherwise mutually agreed to between the Parties, Interconnection Customer shall select: 1) the In-Service Date, Initial Synchronization Date, and Commercial Operation Date based on a reasonable construction schedule that will allow sufficient time for design, construction, equipment procurement, and permit acquisition of Transmission System equipment or right-of-way; and 2) either the Standard Option or Alternate Option set forth below and such dates and selected option shall be set forth in Appendix B. If the dates designated by Interconnection Customer are not acceptable to Transmission Owner, Transmission Owner shall so notify Interconnection Customer within thirty (30) Calendar Days. Upon receipt of the notification that Interconnection Customer's designated dates are not acceptable to Transmission Owner, the

Interconnection Customer shall notify Transmission Owner within thirty (30) Calendar Days whether it elects to exercise the Option to Build if it has not already elected to exercise the Option to Build.

**5.1.1 Standard Option.** Transmission Owner shall design, procure, and construct the Transmission Owner's Interconnection Facilities, Network Upgrades, System Protection Facilities, Distribution Upgrades, and Generator Upgrades using Reasonable Efforts to complete the Transmission Owner's Interconnection Facilities, Network Upgrades, System Protection Facilities, Distribution Upgrades and Generator Upgrades by the dates set forth in Appendix B, Milestones, subject to the receipt of all approvals required from Governmental Authorities and the receipt of all land rights necessary to commence construction of such facilities, and such other permits or authorizations as may be required. Transmission Provider or Transmission Owner shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, Applicable Laws and Regulations and Good Utility Practice. In the event Transmission Owner reasonably expects that it will not be able to complete the Transmission Owner's Interconnection Facilities, Network Upgrades, System Protection Facilities, Distribution Upgrades and Generator Upgrades by the specified dates, Transmission Owner shall promptly provide written notice to Interconnection Customer and Transmission Provider and shall undertake Reasonable Efforts to meet the earliest dates thereafter.

**5.1.2 Alternate Option.** If the dates designated by Interconnection Customer are acceptable to Transmission Provider and Transmission Owner, Transmission Provider shall so notify Interconnection Customer within thirty (30) Calendar Days, and Transmission Owner shall assume responsibility for the design, procurement and construction of the Transmission Owner's Interconnection Facilities by the designated dates.

If Transmission Owner subsequently fails to complete the Transmission Owner's Interconnection Facilities by the In-Service Date, to the extent necessary to provide back feed power; or fails to complete Network Upgrades by the Initial Synchronization Date to the extent necessary to allow for Trial Operation at full power output, unless other arrangements are made by the Parties for such Trial Operation; or fails to complete the Network Upgrades by the Commercial Operation Date, as such dates are reflected in Appendix B, Milestones; Transmission Owner shall pay Interconnection Customer liquidated damages in accordance with Article 5.3, Liquidated Damages, provided, however, the dates designated by Interconnection Customer shall be extended day for day for each Calendar Day that Transmission Provider refuses to grant clearances to install equipment.

Transmission Owner and Interconnection Customer may adopt an incentive payment schedule that is mutually agreeable to encourage Transmission Owner to meet specified accelerated dates. Such payment by Interconnection Customer is not subject to refund.

**5.1.3 Option to Build.** Pursuant to Section 7.3.2.5 & 7.3.3.5 of the GIP, Interconnection Customer shall have the option to assume responsibility for the design, procurement and construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades by the dates originally designated by Interconnection Customer under Article 5.1.2. The Parties must agree as to what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix A. Except for Stand Alone Network Upgrades, Interconnection Customer shall have no right to construct Network Upgrades under this option.

**5.1.4 Negotiated Option.** If the dates designated by Interconnection Customer pursuant to Article 5.1 are not acceptable to Transmission Owner, the Parties shall in good faith attempt to negotiate terms and conditions (including revision of the specified dates and liquidated damages, the provision of incentives, or the procurement and construction of all facilities other than Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build under Article 5.1.3). If the Parties are unable to reach agreement on such terms and conditions, then, pursuant to Article 5.1.1 (Standard Option), Transmission Owner shall assume responsibility for the design, procurement and construction of all facilities other than Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer has elected to exercise the Option to Build.

Transmission Owner and Interconnection Customer may adopt an incentive payment schedule that is mutually agreeable to encourage Transmission Owner to meet specified accelerated dates. Such payment by Interconnection Customer is not subject to refund.

**5.2 General Conditions Applicable to Option to Build.** If Interconnection Customer assumes responsibility for the design, procurement and construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades after receipt of all required approvals from Governmental Authorities necessary to commence construction,

(1) Interconnection Customer shall engineer, procure equipment, and construct the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades (or portions thereof) using Good Utility Practice and using standards and specifications provided in advance by Transmission Owner, or as required by any Governmental Authority;

(2) Interconnection Customer's engineering, procurement and construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades shall comply with all requirements of law or Governmental Authority to which Transmission Owner would be subject in the engineering, procurement or construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades;

(3) Transmission Provider, at Transmission Provider's option, and Transmission Owner shall be entitled to review and approve the engineering design, equipment acceptance tests(including witnessing of acceptance tests), and the construction (including monitoring of construction) of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades, and shall have the right to reject any design, procurement, construction or acceptance test of any equipment that does not meet the standards and specifications of Transmission Provider, Transmission Owner and any Governmental Authority;

(4) prior to commencement of construction, Interconnection Customer shall provide to Transmission Provider and Transmission Owner a schedule for construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades, and shall promptly respond to requests for information from Transmission Provider and Transmission Owner;

(5) at any time during construction, Transmission Provider and Transmission Owner shall have unrestricted access to the construction site for the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades and to conduct inspections of the same;

(6) at any time during construction, should any phase of the engineering, equipment procurement, or construction of the Transmission Owner's

Interconnection Facilities and Stand Alone Network Upgrades not meet the standards and specifications provided by Transmission Owner, Interconnection Customer shall be obligated to remedy deficiencies in that portion of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to meet the standards and specifications provided by Transmission Provider and Transmission Owner;

(7) Interconnection Customer shall indemnify Transmission Provider and Transmission Owner for claims arising from the Interconnection Customer's construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades under the terms and procedures applicable to Article 18.1, Indemnity;

(8) Interconnection Customer shall transfer control of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to Transmission Owner;

(9) Unless Parties otherwise agree, Interconnection Customer shall transfer ownership of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to Transmission Owner in accordance with Appendix B;

(10) Transmission Provider, at Transmission Provider's option, and Transmission Owner shall approve and accept for operation and maintenance the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to the extent engineered, procured, and constructed in accordance with this Article 5.2 only if the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades meet the standards and specifications of Transmission Provider, Transmission Owner and any Governmental Authority.

(11) Interconnection Customer shall deliver to Transmission Owner “as-built” drawings, information, and any other documents that are reasonably required by Transmission Owner to assure that the Interconnection Facilities and Stand-Alone Network Upgrades are built to the standards and specifications required by Transmission Owner.

(12) If Interconnection Customer exercises the Option to Build pursuant to Article 5.1.3, Interconnection Customer shall pay Transmission Owner the agreed upon amount of [\$ PLACEHOLDER] for Transmission Owner to execute the responsibilities enumerated to Transmission Owner under Article 5.2. Transmission Owner shall invoice Interconnection Customer for this total amount to be divided on a monthly basis pursuant to Article 12.

(13) If Interconnection Customer exercises the Option to Build pursuant to Article 5.1.3, and the Transmission Owner has elected to fund the costs of Network Upgrades pursuant to Article 11.3, then prior to Interconnection Customer incurring any construction costs relating to the Option to Build and by the date specified in Appendix B, Interconnection Customer shall invoice the Transmission Owner for the estimated amount to be expended by the Interconnection Customer to construct any Stand Alone Network Upgrades for which the Interconnection Customer has exercised its Option to Build in accordance with Appendix B. The Transmission Owner shall be required to reimburse Interconnection Customer for the full amount of such invoiced costs by the date specified in Appendix B, which shall be prior to the date by which Interconnection Customer must make any construction payment for such Stand Alone Network Upgrades. After completion of the construction of Stand Alone Network Upgrades by the Interconnection Customer and by the date specified in Appendix B for the Interconnection Customer to transfer such Stand Alone Network Upgrades to the Transmission Owner, Interconnection Customer shall provide an invoice of the final cost of the construction of Stand Alone Upgrades

and shall set forth such costs in sufficient detail to enable the Transmission Owner to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. In the event that the actual costs exceed the estimated costs previously invoiced by Interconnection Customer and paid by Transmission Owner, Transmission Owner shall pay to Interconnection Customer the difference between the amount previously paid and the actual costs within thirty (30) Calendar Days after receipt of a final construction invoice from Interconnection Customer. In the event that the actual costs are less than the estimated costs previously invoiced by Interconnection Customer and paid by Transmission Owner, Interconnection Customer shall refund, with interest (calculated in accordance with 18 C.F.R. Section 35.19a(a)(2)(iii)), to Transmission Owner any amount by which the actual payment by Transmission Owner for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice. Following the transfer of the Stand Alone Network Upgrades from the Interconnection Customer to the Transmission Owner, the Interconnection Customer shall make payments for such facilities to the Transmission Owner pursuant to an agreement between and among the Parties.

- 5.3 Liquidated Damages.** The actual damages to Interconnection Customer, in the event the Transmission Owner's Interconnection Facilities or Network Upgrades are not completed by the dates designated by Interconnection Customer and accepted by Transmission Provider and Transmission Owner pursuant to subparagraphs 5.1.2 or 5.1.4, above, may include Interconnection Customer's fixed operation and maintenance costs and lost opportunity costs. Such actual damages are uncertain and impossible to determine at this time. Because of such uncertainty, any liquidated damages paid by Transmission Owner to Interconnection Customer in the event that Transmission Owner does not complete any portion of the Transmission Owner's Interconnection Facilities or Network Upgrades by the applicable dates, shall be an amount equal to  $\frac{1}{2}$  of 1 percent per day of the actual cost of the Transmission Owner's Interconnection Facilities and Network Upgrades, in the



aggregate, for which Transmission Owner has assumed responsibility to design, procure and construct.

However, in no event shall the total liquidated damages exceed 20 percent of the actual cost of the Transmission Owner's Interconnection Facilities and Network Upgrades for which Transmission Owner has assumed responsibility to design, procure, and construct. The foregoing payments will be made by Transmission Owner to Interconnection Customer as just compensation for the damages caused to Interconnection Customer, which actual damages are uncertain and impossible to determine at this time, and as reasonable liquidated damages, but not as a penalty or a method to secure performance of this GIA. Liquidated damages, when the Parties agree to them, are the exclusive remedy for the Transmission Owner's failure to meet its schedule.

No liquidated damages shall be paid to Interconnection Customer if: (1) Interconnection Customer is not ready to commence use of the Transmission Owner's Interconnection Facilities or Network Upgrades to take the delivery of power for the Generating Facility's Trial Operation or to export power from the Generating Facility on the specified dates, unless Interconnection Customer would have been able to commence use of the Transmission Owner's Interconnection Facilities or Network Upgrades to take the delivery of power for Generating Facility's Trial Operation or to export power from the Generating Facility, but for Transmission Owner's delay; (2) the Transmission Owner's failure to meet the specified dates is the result of the action or inaction of Transmission Provider, Interconnection Customer or any other earlier queued Interconnection Customer who has entered into an earlier GIA with Transmission Provider and/or a Transmission Owner or with an Affected System Operator, or any cause beyond Transmission Owner's reasonable control or reasonable ability to cure; (3) Interconnection Customer has assumed responsibility for the design, procurement and construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades; (4) the delay is due to the inability of Transmission Owner to obtain all required approvals from Governmental Authorities in a timely manner for the

construction of any element of the Interconnection Facilities, Network Upgrades or Stand Alone Network Upgrades, or any other permit or authorization required, or any land rights or other private authorizations that may be required, and Transmission Owner has exercised Reasonable Efforts in procuring such approvals, permits, rights or authorizations; or (5) the Parties have otherwise agreed.

**5.4 Power System Stabilizers.** Interconnection Customer shall procure, install, maintain and operate power system stabilizers in accordance with the guidelines and procedures established by the Applicable Reliability Council. Transmission Provider and Transmission Owner reserve the right to reasonably establish minimum acceptable settings for any installed power system stabilizers, subject to the design and operating limitations of the Generating Facility. If the Generating Facility's power system stabilizers are removed from service or are not capable of automatic operation, Interconnection Customer shall immediately notify the Transmission Provider's system operator, or its designated representative. The requirements of this paragraph shall not apply to induction generators.

**5.5 Equipment Procurement.** If responsibility for construction of the Transmission Owner's Interconnection Facilities, Network Upgrades and/or Distribution Upgrades is to be borne by Transmission Owner, then Transmission Owner shall commence design of the Transmission Owner's Interconnection Facilities, Network Upgrades and/or Distribution Upgrades, and procure necessary equipment as soon as practicable after all of the following conditions are satisfied, unless the Parties otherwise agree in writing:

**5.5.1** Transmission Provider has completed the Interconnection Facilities Study pursuant to the Interconnection Facilities Study Agreement; and

**5.5.2** Where applicable, Interconnection Customer has provided security to Transmission Owner in accordance with Article 11.6 by the dates specified in Appendix B, Milestones.

**5.6 Construction Commencement.** Transmission Owner shall commence construction of the Transmission Owner's Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, Distribution Upgrades, and Generator Upgrades for which it is responsible as soon as practicable after the following additional conditions are satisfied:

**5.6.1** Approval of the appropriate Governmental Authority has been obtained for any facilities requiring regulatory approval; and

**5.6.2** Where applicable, Interconnection Customer has provided security to Transmission Owner in accordance with Article 11.6 by the dates specified in Appendix B, Milestones.

**5.7 Work Progress.** Transmission Owner and Interconnection Customer will keep each other and Transmission Provider advised periodically as to the progress of their respective design, procurement and construction efforts. Either Transmission Owner or Interconnection Customer may, at any time, request a progress report from the other, with a copy to be provided to the other Parties. If, at any time, Interconnection Customer determines that the completion of the Transmission Owner's Interconnection Facilities, Network Upgrades, or Transmission Owner's System Protection Facilities will not be required until after the specified In-Service Date, Interconnection Customer will provide written notice to Transmission Provider and Transmission Owner of such later date upon which the completion of the Transmission Owner's Interconnection Facilities, Network Upgrades or Transmission Owner's System Protection Facilities will be required. Transmission Owner may delay the In-Service Date of its facilities accordingly.

**5.8 Information Exchange.** As soon as reasonably practicable after the Effective Date, the Parties shall exchange information regarding the design and compatibility of the Interconnection Facilities and compatibility of the Interconnection Facilities with the

Transmission System or Distribution System, as applicable, and shall work diligently and in good faith to make any necessary design changes.

## **5.9 Other Interconnection Options.**

**5.9.1 Limited Operation.** If any of the Transmission Owner's Interconnection Facilities, Network Upgrades, or Transmission Owner's System Protection Facilities, Distribution Upgrades or Generator Upgrades are not reasonably expected to be completed prior to the Commercial Operation Date of the Generating Facility, Transmission Provider shall, upon the request and at the expense of Interconnection Customer, perform operating studies on a timely basis to determine the extent to which the Generating Facility and the Interconnection Customer's Interconnection Facilities may operate prior to the completion of the Transmission Owner's Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, Distribution Upgrades or Generator Upgrades consistent with Applicable Laws and Regulations, Applicable Reliability Standards, Good Utility Practice, and this GIA. Transmission Provider and Transmission Owner shall permit Interconnection Customer to operate the Generating Facility and the Interconnection Customer's Interconnection Facilities in accordance with the results of such studies; provided, however, such studies reveal that such operation may occur without detriment to the Transmission System as then configured and in accordance with the safety requirements of Transmission Owner and any Governmental Authority.

The maximum permissible output of the Generating Facility will be updated on a quarterly basis if the Network Upgrades necessary for the interconnection of the Generating Facility pursuant to this GIA are not in service within six (6) months following the Commercial Operation Date of the Generating Facility as specified in Appendix B of this GIA. These quarterly studies will be performed using the same methodology set forth in Section 11.5 of the GIP. These quarterly updates

will end when all Network Upgrades necessary for the interconnection of the Generating Facility pursuant to this GIA are in service.

### **5.9.2 Provisional Interconnection Service.**

Upon the request of Interconnection Customer, and prior to completion of requisite Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities Transmission Provider may execute a Provisional Generator Interconnection Agreement or Interconnection Customer may request the filing of an unexecuted Provisional Generator Interconnection Agreement with the Interconnection Customer for limited interconnection service at the discretion of Transmission Provider based upon an evaluation that will consider the results of available studies. Transmission Provider shall determine, through available studies or additional studies as necessary, whether stability, short circuit, thermal, and/or voltage issues would arise if Interconnection Customer interconnects without modifications to the Generating Facility or Transmission Provider's system. Transmission Provider shall determine whether any Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities that are necessary to meet the requirements of NERC, or any applicable Regional Entity for the interconnection of a new, modified and/or expanded Generating Facility are in place prior to the commencement of interconnection service from the Generating Facility. Where available studies indicate that such Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities that are required for the interconnection of a new, modified and/or expanded Generating Facility are not currently in place, Transmission Provider will perform a study, at the Interconnection Customer's expense, to confirm the facilities that are required for Provisional Interconnection Service. The maximum permissible output of the Generating Facility in the Provisional Generator Interconnection Agreement shall be studied and updated on a quarterly basis. Interconnection Customer assumes all risk and liabilities with respect to changes between the Provisional Generator

Interconnection Agreement and the Generator Interconnection Agreement, including changes in output limits and Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities cost responsibilities.

**5.10 Interconnection Customer's Interconnection Facilities.** Interconnection Customer shall, at its expense, design, procure, construct, own or control, and install the ICIF, as set forth in Appendix A.

**5.10.1 Interconnection Customer's Interconnection Facility Specifications.**

Interconnection Customer shall submit initial design and specifications for the ICIF, including Interconnection Customer's System Protection Facilities, to Transmission Provider and Transmission Owner at least one hundred eighty (180) Calendar Days prior to the Initial Synchronization Date; and final design and specifications for review and comment at least ninety (90) Calendar Days prior to the Initial Synchronization Date. Transmission Provider at Transmission Provider's option, and Transmission Owner shall review such specifications to ensure that the ICIF are compatible with their respective technical specifications, operational control, and safety requirements and comment on such design and specifications within thirty (30) Calendar Days of Interconnection Customer's submission. All specifications provided hereunder shall be deemed confidential.

**5.10.2 Transmission Provider's and Transmission Owner's Review.** Transmission Provider's and Transmission Owner's review of Interconnection Customer's final specifications shall not be construed as confirming, endorsing, or providing a warranty as to the design, fitness, safety, durability or reliability of the Generating Facility, or the ICIF. Interconnection Customer shall make such changes to the ICIF as may reasonably be required by Transmission Provider and Transmission Owner, in accordance with Good Utility Practice, to ensure

that the ICIF are compatible with the technical specifications, operational control and safety requirements of Transmission Provider and Transmission Owner.

**5.10.3 ICIF Construction.** The ICIF shall be designed and constructed in accordance with Good Utility Practice. Within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Interconnection Customer shall deliver to Transmission Provider and Transmission Owner “as-built” drawings, information and documents for the ICIF, such as: a one-line diagram, a site plan showing the Generating Facility and the ICIF, plan and elevation drawings showing the layout of the ICIF, a relay functional diagram, relaying AC and DC schematic wiring diagrams and relay settings for all facilities associated with the Interconnection Customer’s step-up transformers, the facilities connecting the Generating Facility to the step-up transformers and the ICIF, and the impedances (determined by factory tests) for the associated step-up transformers and the Generating Facility. Interconnection Customer shall provide Transmission Provider and Transmission Owner with Interconnection Customer’s specifications for the excitation system, automatic voltage regulator, Generating Facility control and protection settings, transformer tap settings, and communications, if applicable.

**5.11 Transmission Owner’s Interconnection Facilities Construction.** The Transmission Owner’s Interconnection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Transmission Owner shall deliver to Transmission Provider (if requested) and Interconnection Customer the “as-built” drawings, information and documents for the Transmission Owner’s Interconnection Facilities specified in Appendix C to this GIA.

Such drawings, information and documents shall be deemed Confidential Information.

Upon completion, the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades shall be under the control of Transmission Provider or its designated representative.

**5.12 Access Rights.** Upon reasonable notice by a Party, and subject to any required or necessary regulatory approvals, a Party ("Granting Party") shall furnish *at no cost* to the other Party ("Access Party") any rights of use, licenses, rights of way and easements with respect to lands owned or controlled by the Granting Party, its agents (if allowed under the applicable agency agreement), or any Affiliate, that are necessary to enable the Access Party to obtain ingress and egress to construct, operate, maintain, repair, test (or witness testing), inspect, replace or remove facilities and equipment to: (i) interconnect the Generating Facility with the Transmission System; (ii) operate and maintain the Generating Facility, the Interconnection Facilities and the Transmission System; and (iii) disconnect or remove the Access Party's facilities and equipment upon termination of this GIA. In exercising such licenses, rights of way and easements, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business and shall adhere to the safety rules and procedures established in advance, as may be changed from time to time, by the Granting Party and provided to the Access Party.

**5.13 Lands of Other Property Owners.** If any part of the Transmission Owner's Interconnection Facilities, Network Upgrades, and/or Distribution Upgrades is to be installed on property owned by persons other than Interconnection Customer or Transmission Owner, Transmission Owner shall at Interconnection Customer's expense use efforts, similar in nature and extent to those that it typically undertakes on its own behalf or on behalf of its Affiliates, including use of its eminent domain authority to the extent permitted and consistent with Applicable Laws and Regulations and, to the extent



consistent with such Applicable Laws and Regulations, to procure from such persons any rights of use, licenses, rights of way and easements that are necessary to construct, operate, maintain, test, inspect, replace or remove the Transmission Owner's Interconnection Facilities, Network Upgrades and/or Distribution Upgrades upon such property.

**5.14 Permits.** Transmission Provider or Transmission Owner and Interconnection Customer shall cooperate with each other in good faith in obtaining all permits, licenses and authorizations that are necessary to accomplish the interconnection in compliance with Applicable Laws and Regulations. With respect to this paragraph, Transmission Owner shall provide permitting assistance to Interconnection Customer comparable to that provided to the Transmission Owner's own, or an Affiliate's, generation to the extent that Transmission Owner or its Affiliate owns generation.

**5.15 Early Construction of Base Case Facilities.** (Includes facilities required for all queued projects with interconnection agreements ).Interconnection Customer may request Transmission Owner to construct, and Transmission Owner shall construct, using Reasonable Efforts to accommodate Interconnection Customer's In-Service Date, all or any portion of any Network Upgrades, Transmission Owner's System Protection Facilities or Distribution Upgrades required for Interconnection Customer to be interconnected to the Transmission or Distribution System, as applicable, which are included in the Base Case of the Interconnection Facilities Study for Interconnection Customer, and which also are required to be constructed for another Interconnection Customer with a prior GIA, but where such construction is not scheduled to be completed in time to achieve Interconnection Customer's In-Service Date. Any such Network Upgrades, System Protection Facilities or Distribution Upgrades are included in the facilities to be constructed and as set forth in Appendix A to this GIA to the extent they are reasonably known.

**5.16 Suspension.**

**5.16.1 Interconnection Customer's Right to Suspend for Force Majeure Event;**

**Obligations.** Provided that such suspension is permissible under the authorizations, permits or approvals granted for the construction of such Interconnection Facilities, Network Upgrades or Stand Alone Network Upgrades, Interconnection Customer will not suspend unless a Force Majeure event occurs.

Interconnection Customer must provide written notice of its request for suspension to Transmission Provider and Transmission Owner, and provide a description of the Force Majeure event that is acceptable to Transmission Provider. Suspension will only apply to Interconnection Customer milestones and Interconnection Facilities described in the Appendices of this GIA. Prior to suspension, Interconnection Customer must also provide security acceptable to Transmission Owner, equivalent to the higher of \$5 million or the total cost of all Network Upgrades, Transmission Owner's System Protection Facilities, and Distribution Upgrades listed in Appendix A of this GIA. Network Upgrades and Transmission Owner's Interconnection Facilities will be constructed on the schedule described in the Appendices of this GIA unless: (1) construction is prevented by the order of a Governmental Authority; (2) the Network Upgrades are not needed by any other project; or (3) Transmission Owner or Transmission Provider determines that a Force Majeure event prevents construction. In the event of (1), (2), or (3) security shall be released upon the determination that the Network Upgrades will no longer be constructed.

If suspension occurs, the Transmission or Distribution System, as applicable, shall be left in a safe and reliable condition in accordance with Good Utility Practice and the Transmission Provider's and Transmission Owner's safety and reliability criteria. In such event, Interconnection Customer shall be responsible for all reasonable and necessary costs which Transmission Provider and Transmission Owner (i) have incurred pursuant to this GIA prior to the suspension and (ii) incur

in suspending such work, including any costs incurred to perform such work as may be necessary to ensure the safety of persons and property and the integrity of the Transmission or Distribution System, as applicable, during such suspension and, if applicable, any costs incurred in connection with the cancellation or suspension of material, equipment and labor contracts which Transmission Provider and Transmission Owner cannot reasonably avoid; provided, however, that prior to canceling or suspending any such material, equipment or labor contract, Transmission Provider and Transmission Owner shall obtain Interconnection Customer's authorization to do so.

Transmission Provider and Transmission Owner shall each invoice Interconnection Customer for such costs pursuant to Article 12 and shall use Reasonable Efforts to minimize its costs. In the event Interconnection Customer suspends work by Transmission Owner required under this GIA pursuant to this Article 5.16, and has not requested Transmission Owner to recommence the work required under this GIA on or before the expiration of three (3) years following commencement of such suspension, this GIA shall be deemed terminated. The three-year period shall begin on the date the suspension is requested, or the date of the written notice to Transmission Provider, if no effective date is specified.

**5.16.2 Effect of Missed Interconnection Customer Milestones.** If Interconnection Customer fails to provide notice of suspension pursuant to Article 5.16, and Interconnection Customer fails to fulfill or complete any Interconnection Customer Milestone provided in Appendix B ("Milestone"), this constitutes a Breach under this GIA. Depending upon the consequences of the Breach and effectiveness of the cure pursuant to Article 17, the Transmission Owner's Milestones may be revised, following consultation with Interconnection Customer, consistent with Reasonable Efforts, and in consideration of all relevant circumstances. Parties shall employ Reasonable Efforts to maintain their remaining respective Milestones.

**5.16.3 Effect of Suspension; Parties Obligations.** In the event that Interconnection Customer suspends work pursuant to this Article 5.16, no construction duration, timelines and schedules set forth in Appendix B shall be suspended during the period of suspension unless ordered by a Governmental Authority, with such order being the Force Majeure event causing the suspension. Should Interconnection Customer request that work be recommenced, Transmission Owner shall be obligated to proceed with Reasonable Efforts and in consideration of all relevant circumstances including regional outage schedules, construction availability and material procurement in performing the work as described in Appendix A and Appendix B. Transmission Owner will provide Interconnection Customer with a revised schedule for the design, procurement, construction, installation and testing of the Transmission Owner's Interconnection Facilities and Network Upgrades. Upon any suspension by Interconnection Customer pursuant to Article 5.16, Interconnection Customer shall be responsible for only those costs specified in this Article 5.16.

## **5.17 Taxes.**

**5.17.1 Interconnection Customer Payments Not Taxable.** The Parties intend that all payments or property transfers made by Interconnection Customer to Transmission Owner for the installation of the Transmission Owner's Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, Distribution Upgrades and Generator Upgrades shall be non-taxable, either as contributions to capital, or as an advance, in accordance with the Internal Revenue Code and any applicable state income tax laws and shall not be taxable as contributions in aid of construction or otherwise under the Internal Revenue Code and any applicable state income tax laws. To the extent that Transmission Owner is a limited liability company and not a corporation, and has elected to be taxed as a partnership, then the following shall apply: Transmission

Owner represents, and the Parties acknowledge, that Transmission Owner is a limited liability company and is treated as a partnership for federal income tax purposes. Any payment made by Interconnection Customer to Transmission Owner for Network Upgrades is to be treated as an upfront payment in accordance with Rev Proc 2005-35. It is anticipated by the parties that any amounts paid by Interconnection Customer to Transmission Owner for Network Upgrades will be reimbursed to Interconnection Customer in accordance with the terms of this GIA, provided Interconnection Customer fulfills its obligations under this GIA.

**5.17.2 Representations and Covenants.** In accordance with IRS Notice 2016-36, Interconnection Customer represents and covenants that (i) ownership of the electricity generated at the Generating Facility will pass to another party prior to the transmission of the electricity on the Transmission System, (ii) for income tax purposes, the amount of any payments and the cost of any property transferred to Transmission Owner for the Transmission Owner's Interconnection Facilities will be capitalized by Interconnection Customer as an intangible asset and recovered using the straight-line method over a useful life of twenty (20) years, and (iii) any portion of the Transmission Owner's Interconnection Facilities that is a "dual-use intertie," within the meaning of IRS Notice 2016-36, is reasonably expected to carry only a de minimis amount of electricity in the direction of the Generating Facility. For this purpose, "de minimis amount" means no more than 5 percent of the total power flows in both directions, calculated in accordance with the "5 percent test" set forth in IRS Notice 2016-36. This is not intended to be an exclusive list of the relevant conditions that must be met to conform to IRS requirements for non-taxable treatment.

At Transmission Owner's request, Interconnection Customer shall provide Transmission Owner with a report from an independent engineer confirming its

representation in clause (iii), above, with a copy to Transmission Provider.

Transmission Owner represents and covenants that the cost of the Transmission Owner's Interconnection Facilities paid for by Interconnection Customer will have no net effect on the base upon which rates are determined.

**5.17.3 Indemnification for the Cost Consequences of Current Tax Liability** Upon Transmission Owner. Notwithstanding Article 5.17.1 and to the extent permitted by law, Interconnection Customer shall protect, indemnify and hold harmless Transmission Owner from the cost consequences of any tax liability imposed against Transmission Owner as the result of payments or property transfers made by Interconnection Customer to Transmission Owner under this GIA for Interconnection Facilities, as well as any interest and penalties, other than interest and penalties attributable to any delay caused by Transmission Owner.

Transmission Owner shall not include a gross-up for the cost consequences of any current tax liability in the amounts it charges Interconnection Customer under this GIA unless (i) Transmission Owner has determined, in good faith, that the payments or property transfers made by Interconnection Customer to Transmission Owner should be reported as income subject to taxation or (ii) any Governmental Authority directs Transmission Owner to report payments or property as income subject to taxation; provided, however, that Transmission Owner may require Interconnection Customer to provide security for Interconnection Facilities, in a form reasonably acceptable to Transmission Owner (such as a parental guarantee or a letter of credit), in an amount equal to the cost consequences or any current tax liability under this Article 5.17.

Interconnection Customer shall reimburse Transmission Owner for such costs on a fully grossed-up basis, in accordance with Article 5.17.4, within thirty (30) Calendar Days of receiving written notification from Transmission Owner of the amount due, including detail about how the amount was calculated.

The indemnification obligation shall terminate at the earlier of (1) the expiration of the ten-year testing period and the applicable statute of limitation, as it may be extended by Transmission Owner upon request of the IRS, to keep these years open for audit or adjustment, or (2) the occurrence of a subsequent taxable event and the payment of any related indemnification obligations as contemplated by this Article 5.17.

**5.17.4 Tax Gross-Up Amount.** Interconnection Customer's liability for the cost consequences of any current tax liability under this Article 5.17 shall be calculated on a fully grossed-up basis. Except as may otherwise be agreed to by the parties, this means that Interconnection Customer will pay Transmission Owner, in addition to the amount paid for the Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, and/or Distribution Upgrades, an amount equal to (1) the current taxes imposed on Transmission Owner ("Current Taxes") on the excess of (a) the gross income realized by Transmission Owner as a result of payments or property transfers made by Interconnection Customer to Transmission Owner under this GIA (without regard to any payments under this Article 5.17) (the "Gross Income Amount") over (b) the present value of future tax deductions for depreciation that will be available as a result of such payments or property transfers (the "Present Value Depreciation Amount"), plus (2) an additional amount sufficient to permit Transmission Owner to receive and retain, after the payment of all Current Taxes, an amount equal to the net amount described in clause (1).

For this purpose, (i) Current Taxes shall be computed based on Transmission Owner's composite federal and state tax rates at the time the payments or property transfers are received and Transmission Owner will be treated as being subject to tax at the highest marginal rates in effect at that time (the "Current Tax Rate"), and (ii) the Present Value Depreciation Amount shall be computed

by discounting Transmission Owner's anticipated tax depreciation deductions as a result of such payments or property transfers by Transmission Owner's current weighted average cost of capital. Thus, the formula for calculating Interconnection Customer's liability to Transmission Owner pursuant to this Article 5.17.4 can be expressed as follows:  $(\text{Current Tax Rate} \times (\text{Gross Income Amount} - \text{Present Value of Tax Depreciation})) / (1 - \text{Current Tax Rate})$ . Interconnection Customer's estimated tax liability in the event taxes are imposed shall be stated in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.

**5.17.5 Private Letter Ruling or Change or Clarification of Law.** At Interconnection Customer's request and expense, Transmission Owner shall file with the IRS a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by Interconnection Customer to Transmission Owner under this GIA are subject to federal income taxation. Interconnection Customer will prepare the initial draft of the request for a private letter ruling, and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of Interconnection Customer's knowledge. Transmission Owner and Interconnection Customer shall cooperate in good faith with respect to the submission of such request.

Transmission Owner shall keep Interconnection Customer fully informed of the status of such request for a private letter ruling and shall execute either a privacy act waiver or a limited power of attorney, in a form acceptable to the IRS, that authorizes Interconnection Customer to participate in all discussions with the IRS regarding such request for a private letter ruling. Transmission Owner shall allow Interconnection Customer to attend all meetings with IRS officials about the request and shall permit Interconnection Customer to prepare the initial drafts of any follow-up letters in connection with the request.



**5.17.6 Subsequent Taxable Events.** If, within 10 years from the date on which the relevant Transmission Owner's Interconnection Facilities are placed in service, (i) Interconnection Customer breaches the covenant contained in Article 5.17.2, (ii) a "disqualification event" occurs within the meaning of IRS Notice 88-129, or (iii) this GIA terminates and Transmission Owner retains ownership of the Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, and/or Distribution Upgrades, Interconnection Customer shall pay a tax gross-up for the cost consequences of any current tax liability imposed on Transmission Owner, calculated using the methodology described in Article 5.17.4 and in accordance with IRS Notice 90-60.

**5.17.7 Contests.** In the event any Governmental Authority determines that Transmission Owner's receipt of payments or property constitutes income that is subject to taxation, Transmission Owner shall notify Interconnection Customer, in writing, within thirty (30) Calendar Days of receiving notification of such determination by a Governmental Authority. Upon the timely written request by Interconnection Customer and at Interconnection Customer's sole expense, Transmission Owner may appeal, protest, seek abatement of, or otherwise oppose such determination. Upon Interconnection Customer's written request and sole expense, Transmission Owner shall file a claim for refund with respect to any taxes paid under this Article 5.17, whether or not it has received such a determination. Transmission Owner reserves the right to make all decisions with regard to the prosecution of such appeal, protest, abatement or other contest, including the selection of counsel and compromise or settlement of the claim, but Transmission Owner shall keep Interconnection Customer informed, shall consider in good faith suggestions from Interconnection Customer about the conduct of the contest, and shall reasonably permit Interconnection Customer or an Interconnection Customer representative to attend contest proceedings.

Interconnection Customer shall pay to Transmission Owner on a periodic basis, as invoiced by Transmission Owner, Transmission Owner's documented reasonable costs of prosecuting such appeal, protest, abatement or other contest. At any time during the contest, Transmission Owner may agree to a settlement either with Interconnection Customer's consent or after obtaining written advice from nationally-recognized tax counsel, selected by Transmission Owner, but reasonably acceptable to Interconnection Customer, that the proposed settlement represents a reasonable settlement given the hazards of litigation.

Interconnection Customer's obligation shall be based on the amount of the settlement agreed to by Interconnection Customer, or if a higher amount, so much of the settlement that is supported by the written advice from nationally-recognized tax counsel selected under the terms of the preceding sentence. The settlement amount shall be calculated on a fully grossed-up basis to cover any related cost consequences of the current tax liability. Any settlement without Interconnection Customer's consent or such written advice will relieve Interconnection Customer from any obligation to indemnify Transmission Owner for the tax at issue in the contest.

- 5.17.8 Refund.** In the event that (a) a private letter ruling is issued to Transmission Owner which holds that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Owner under the terms of this GIA is not subject to federal income taxation, (b) any legislative change or administrative announcement, notice, ruling or other determination makes it reasonably clear to Transmission Owner in good faith that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Owner under the terms of this GIA is not taxable to Transmission Owner, (c) any abatement, appeal, protest, or other contest results in a determination that any payments or transfers made by Interconnection Customer to Transmission Owner are not subject to federal income tax, or (d) if Transmission Owner receives a refund from any taxing authority for any

overpayment of tax attributable to any payment or property transfer made by Interconnection Customer to Transmission Owner pursuant to this GIA, Transmission Owner shall promptly refund to Interconnection Customer the following:

any payment made by Interconnection Customer under this Article 5.17 for taxes that is attributable to the amount determined to be non-taxable, together with interest thereon,

(ii) interest on any amounts paid by Interconnection Customer to Transmission Owner for such taxes which Transmission Owner did not submit to the taxing authority, calculated in accordance with the methodology set forth in 18 C.F.R. Section 35.19a(a)(2)(iii) from the date payment was made by Interconnection Customer to the date Transmission Owner refunds such payment to Interconnection Customer, and

(iii) with respect to any such taxes paid by Transmission Owner, any refund or credit Transmission Owner receives or to which it may be entitled from any Governmental Authority, interest (or that portion thereof attributable to the payment described in clause (i), above) owed to Transmission Owner for such overpayment of taxes (including any reduction in interest otherwise payable by Transmission Owner to any Governmental Authority resulting from an offset or credit); provided, however, that Transmission Owner will remit such amount promptly to Interconnection Customer only after and to the extent that Transmission Owner has received a tax refund, credit or offset from any Governmental Authority for any applicable overpayment of income tax related to the Transmission Owner's Interconnection Facilities.

The intent of this provision is to leave both parties, to the extent

practicable, in the event that no taxes are due with respect to any payment for Interconnection Facilities and Network Upgrades hereunder, in the same position they would have been in had no such tax payments been made.

**5.17.9 Taxes Other Than Income Taxes.** Upon the timely request by Interconnection Customer, and at Interconnection Customer's sole expense, Transmission Owner shall appeal, protest, seek abatement of, or otherwise contest any tax (other than federal or state income tax) asserted or assessed against Transmission Owner for which Interconnection Customer may be required to reimburse Transmission Owner under the terms of this GIA. Interconnection Customer shall pay to Transmission Owner on a periodic basis, as invoiced by Transmission Owner, Transmission Owner's documented reasonable costs of prosecuting such appeal, protest, abatement, or other contest. Interconnection Customer and Transmission Owner shall cooperate in good faith with respect to any such contest. Unless the payment of such taxes is a prerequisite to an appeal or abatement or cannot be deferred, no amount shall be payable by Interconnection Customer to Transmission Owner for such taxes until they are assessed by a final, non-appealable order by any court or agency of competent jurisdiction. In the event that a tax payment is withheld and ultimately due and payable after appeal, Interconnection Customer will be responsible for all taxes, interest and penalties, other than penalties attributable to any delay caused by Transmission Owner.

**5.18 Tax Status.** Each Party shall cooperate with the other Parties to maintain each Party's tax status. Nothing in this GIA is intended to adversely affect any Party's tax-exempt status with respect to the issuance of bonds including, but not limited to, Local Furnishing Bonds.

**5.19 Modification.**

**5.19.1 General.** Either Party may undertake modifications to its facilities. If a Party plans to undertake a modification that reasonably may be expected to affect another Party's facilities, that Party shall provide to the other Parties sufficient information regarding such modification so that the other Parties may evaluate the potential impact of such modification prior to commencement of the work. Such information shall be deemed to be Confidential Information hereunder and shall include information concerning the timing of such modifications and whether such modifications are expected to interrupt the flow of electricity from the Generating Facility. The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Parties at least ninety (90) Calendar Days in advance of the commencement of the work or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld, conditioned or delayed.

In the case of Generating Facility modifications that do not require Interconnection Customer to submit an Interconnection Request, Transmission Provider shall provide, within thirty (30) Calendar Days (or such other time as the Parties may agree), an estimate of any additional modifications to the Transmission or Distribution System as applicable, Transmission Owner's Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, and/or Distribution Upgrades necessitated by such Interconnection Customer modification and a good faith estimate of the costs thereof which shall be the responsibility of Interconnection Customer.

**5.19.2 Standards.** Any additions, modifications, or replacements made to a Party's facilities shall be designed, constructed and operated in accordance with this GIA and Good Utility Practice.

**5.19.3 Modification Costs.** Interconnection Customer shall not be directly assigned

the costs of any additions, modifications, or replacements that Transmission Owner makes to the Transmission Owner's Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, Distribution Upgrades, or the Transmission or Distribution System, as applicable, to facilitate the interconnection of a third party to the Transmission Owner's Interconnection Facilities or the Transmission or Distribution System, as applicable, or to provide transmission service to a third party under the Tariff. Interconnection Customer shall be responsible for the costs of any additions, modifications, or replacements to the Interconnection Customer's Interconnection Facilities that may be necessary to maintain or upgrade such Interconnection Customer's Interconnection Facilities consistent with Applicable Laws and Regulations, Applicable Reliability Standards or Good Utility Practice.

## ARTICLE 6. TESTING AND INSPECTION

- 6.1 Pre-Commercial Operation Date Testing and Modifications.** Prior to the Commercial Operation Date, Transmission Owner shall test the Transmission Owner's Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities and Distribution Upgrades, and Interconnection Customer shall test each electric production device at the Generating Facility, Interconnection Customer's System Protection Facilities, including control equipment to limit injection at the POI to the level of Interconnection Service set forth in Appendix A and the Interconnection Customer's Interconnection Facilities to ensure their safe and reliable operation. Similar testing may be required after initial operation. Transmission Owner and Interconnection Customer shall make any modifications to their respective facilities that are found to be necessary as a result of such testing. Interconnection Customer shall bear the cost of all such testing and modifications. Interconnection Customer shall generate test energy at the Generating Facility only if it has arranged for the delivery of such test energy.

- 6.2 Post-Commercial Operation Date Testing and Modifications.** Each Party shall at its own expense perform routine inspection and testing of its facilities and equipment in accordance with Good Utility Practice as may be necessary to ensure the continued interconnection of the Generating Facility with the Transmission or Distribution System, as applicable, in a safe and reliable manner. Each Party shall have the right, upon advance written notice, to require reasonable additional testing of the Interconnection Facilities, at the requesting Party's expense, as may be in accordance with Good Utility Practice.
- 6.3 Right to Observe Testing.** Each Party shall notify the other Parties in advance of its performance of tests of its Interconnection Facilities. The other Parties shall each have the right, at its own expense, to observe such testing.
- 6.4 Right to Inspect.** Each Party shall have the right, but shall have no obligation to:
- (i) observe Transmission Owner's and Interconnection Customer's tests and/or inspection of any of their respective System Protection Facilities and other protective equipment, including power system stabilizers and control equipment; (ii) review the settings of the System Protection Facilities and other protective equipment; and (iii) review the maintenance records relative to the Interconnection Facilities, the System Protection Facilities and other protective equipment. A Party may exercise these rights from time to time as it deems necessary upon reasonable notice to the other Parties. The exercise or non-exercise by a Party of any such rights shall not be construed as an endorsement or confirmation of any element or condition of the Interconnection Facilities or the System Protection Facilities or other protective equipment or the operation thereof, or as a warranty as to the fitness, safety, desirability, or reliability of same. Any information that a Party obtains through the exercise of any of its rights under this Article 6.4 shall be deemed to be Confidential Information and treated pursuant to Article 22 of this GIA.

## ARTICLE 7. METERING

**7.1 General.** Each Party shall comply with the Applicable Reliability Council requirements.

Unless the Interconnection Customer is utilizing shared Interconnection Customer Interconnection Facilities, or unless otherwise agreed by the Parties, Transmission Owner, at its election, or otherwise Interconnection Customer, shall install Metering Equipment (the “Metering Party”) at the Point of Interconnection prior to any operation of the Generating Facility. Transmission Owner, at its election, or otherwise Interconnection Customer shall own, operate, test and maintain such Metering Equipment. Power flows to and from the Generating Facility shall be measured at or, at the Metering Party’s option, compensated to, the Point of Interconnection. If Interconnection Customer will share Interconnection Facilities with any other projects, Interconnection Customer shall install Metering Equipment either on its own Generating Facility or its own non-shared facilities sufficient to measure the output of such Interconnection Customer’s Generating Facility separately from any other Generating Facilities with which it will share Interconnection Facilities. The Metering Party shall provide metering quantities, in analog and/or digital form, to the other Parties upon request. Interconnection Customer shall bear all reasonable documented costs associated with the purchase, installation, operation, testing and maintenance of the Metering Equipment.

**7.2 Check Meters.** Interconnection Customer, at its option and expense, may install and operate, on its premises and on its side of the Point of Interconnection, one or more check meters to check the Metering Equipment owned by the Metering Party. Such check meters shall be for check purposes only and shall not be used for the measurement of power flows for purposes of this GIA, except as provided in Article 7.4 below. The check meters shall be subject at all reasonable times to inspection and examination by Transmission Provider, Transmission Owner or their designees. The installation, operation and maintenance thereof shall be performed entirely by Interconnection Customer in accordance with Good Utility Practice.

**7.3 Standards.** The Metering Party shall install, calibrate, and test revenue quality Metering



Equipment in accordance with applicable ANSI standards.

**7.4 Testing of Metering Equipment.** The Metering Party shall inspect and test Metering Equipment upon installation and at least once every two (2) years thereafter. If requested to do so by a Party, the Metering Party shall, at the requesting Party's expense, inspect or test Metering Equipment more frequently than every two (2) years. The Metering Party shall give reasonable notice to the other Parties of the time when any inspection or test shall take place, and the other Parties may have representatives present at the test or inspection. If at any time Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at Interconnection Customer's expense, in order to provide accurate metering, unless the inaccuracy or defect is due to the Metering Party's failure to maintain, then the Metering Party shall pay. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than two percent (2%) from the measurement made by the standard meter used in the test, the Metering Party shall adjust the measurements by correcting all measurements for the period during which Metering Equipment was in error by using Interconnection Customer's check meters, if installed. If no such check meters are installed or if the period cannot be reasonably ascertained, the adjustment shall be for the period immediately preceding the test of the Metering Equipment equal to one-half the time from the date of the previous test of the Metering Equipment.

**7.5 Metering Data.** At Interconnection Customer's expense, the metered data shall be telemetered to one or more locations designated by Transmission Provider and Transmission Owner and one or more locations designated by Interconnection Customer. Such telemetered data shall be used, under normal operating conditions, as the official measurement of the amount of energy delivered from the Generating Facility to the Point of Interconnection.

## ARTICLE 8. COMMUNICATIONS

**8.1 Interconnection Customer Obligations.** Interconnection Customer shall maintain satisfactory operating communications with Transmission Provider's Transmission System dispatcher or representative designated by Transmission Provider. Interconnection Customer shall provide standard voice line, dedicated voice line and facsimile communications at its Generating Facility control room or central dispatch facility through use of either the public telephone system, or a voice communications system that does not rely on the public telephone system. Interconnection Customer shall also provide the dedicated data circuit(s) necessary to provide Interconnection Customer data to Transmission Provider as set forth in Appendix D, Security Arrangements Details. The data circuit(s) shall extend from the Generating Facility to the location(s) specified by Transmission Provider. Any required maintenance of such communications equipment shall be performed by and at the cost of Interconnection Customer. Operational communications shall be activated and maintained under, but not be limited to, the following events: system paralleling or separation, scheduled and unscheduled shutdowns, equipment clearances, and hourly and daily load data.

Unless the Generating Facility is an Intermittent Resource not relying on wind or solar as a fuel source, Interconnection Customer shall install communication and control equipment such that the Generating Facility can receive and respond to the appropriate dispatch signals while operating under the Tariff. Where applicable, the requirements of the communication and control equipment will be enumerated in Appendix C to this GIA.

**8.2 Remote Terminal Unit (RTU).** Prior to the Initial Synchronization Date of the Generating Facility, a remote terminal unit, or equivalent data collection and transfer equipment acceptable to both Parties, shall be installed by Interconnection Customer, or by Transmission Owner at Interconnection Customer's expense, to gather accumulated and instantaneous data to be telemetered to the location(s) designated by Transmission Owner and Transmission Provider through use of a dedicated point-to-point data circuit(s) as indicated in Article 8.1. The communication protocol for the data circuit(s) shall be specified by Transmission Owner and Transmission Provider. Instantaneous bi-

directional analog real power and reactive power flow information must be telemetered directly to the location(s) specified by Transmission Provider and Transmission Owner.

Each Party will promptly advise the other Parties if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction. The Party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

**8.3 No Annexation.** Any and all equipment placed on the premises of a Party shall be and remain the property of the Party providing such equipment regardless of the mode and manner of annexation or attachment to real property, unless otherwise mutually agreed by the Parties.

**8.4 Provision of Data from a Variable Energy Resource.** The Interconnection Customer whose Generating Facility is a Variable Energy Resource shall provide meteorological and forced outage data to the Transmission Provider to the extent necessary for the Transmission Provider's development and deployment of power production forecasts for that class of Variable Energy Resources. The Interconnection Customer with a Variable Energy Resource having wind as the energy source will, upon request by the Transmission Provider, be required to provide the Transmission Provider with site-specific meteorological data including: temperature, wind speed, wind direction, and atmospheric pressure. The Interconnection Customer with a Variable Energy Resource having solar as the energy source will, upon request by the Transmission Provider, be required to provide the Transmission Provider with site-specific meteorological data including: temperature, atmospheric pressure, and irradiance. The Transmission Provider and Interconnection Customer whose Generating Facility is a Variable Energy Resource shall mutually agree to any additional meteorological data that are required for the development and deployment of a power production forecast. The Interconnection Customer whose Generating Facility is a Variable Energy Resource also shall submit data to the Transmission Provider regarding all forced outages to the extent necessary for the

Transmission Provider's development and deployment of power production forecasts for that class of Variable Energy Resources. The exact specifications of the meteorological and forced outage data to be provided by the Interconnection Customer to the Transmission Provider, including the frequency and timing of data submittals, shall be made taking into account the size and configuration of the Variable Energy Resource, its characteristics, location, and its importance in maintaining generation resource adequacy and transmission system reliability in its area. All requirements for meteorological and forced outage data must be commensurate with the power production forecasting employed by the Transmission Provider. Data requirements for meteorological and forced outage data will be negotiated by the Transmission Provider and the Interconnection Customer, and will be set forth in Appendix C, Interconnection Details, of this GIA.

## ARTICLE 9. OPERATIONS

- 9.1 General.** Each Party shall comply with the Applicable Reliability Council requirements. Each Party shall provide to any Party all information that may reasonably be required by that Party to comply with Applicable Laws and Regulations and Applicable Reliability Standards.
- 9.2 Local Balancing Authority Notification.** At least three (3) months before Initial Synchronization Date, Interconnection Customer shall notify Transmission Provider and Transmission Owner in writing of the Local Balancing Authority in which the Generating Facility will be located. If Interconnection Customer elects to locate the Generating Facility through dynamic metering/scheduling in a Local Balancing Authority other than the Local Balancing Authority in which the Generating Facility is physically located, and if permitted to do so by the relevant transmission tariffs, all necessary arrangements, including but not limited to those set forth in Article 7 and Article 8 of this GIA, and remote Local Balancing Authority generator interchange agreements, if applicable, and the appropriate measures under such agreements, shall be executed and implemented

prior to the placement of the Generating Facility in the other Local Balancing Authority.

**9.3 Transmission Provider and Transmission Owner Obligations.** Transmission Provider shall cause the Transmission System and the Transmission Owner's Interconnection Facilities to be operated, maintained and controlled in a safe and reliable manner in accordance with this GIA. Transmission Provider, or its designee, may provide operating instructions to Interconnection Customer consistent with this GIA and the Tariff and, if applicable, Transmission Owner's operating protocols and procedures as they may change from time to time. Transmission Provider will consider changes to its operating protocols and procedures proposed by Interconnection Customer.

**9.4 Interconnection Customer Obligations.** Interconnection Customer shall at its own expense operate, maintain and control the Generating Facility and the Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this GIA. The Generating Facility must be operated in accordance with the operating limits, if any, in the Interconnection Facilities Study and specified in Appendix C of this GIA. Interconnection Customer shall operate the Generating Facility and the Interconnection Customer's Interconnection Facilities in accordance with all applicable requirements of Transmission Provider or its designated Local Balancing Authority Operator of which the Generating Facility is part, as such requirements are set forth in Appendix C, Interconnection Details, of this GIA. Appendix C, Interconnection Details, will be modified to reflect changes to the requirements as they may change from time to time. Any Party may request that a Party provide copies of the requirements set forth in Appendix C, Interconnection Details, of this GIA.

**9.5 Start-Up and Synchronization.** Consistent with the Parties' mutually acceptable procedures, Interconnection Customer is responsible for the proper synchronization of the Generating Facility to the Transmission or Distribution System, as applicable.

**9.6 Reactive Power and Primary Frequency Response.**

## **9.6.1 Power Factor Design Criteria.**

**9.6.1.1 Synchronous Generation.** Interconnection Customer shall design the Generating Facility to be capable of maintaining a composite power delivery at continuous rated power output at the Point of Interconnection at all power factors over 0.95 leading to 0.95 lagging, unless the Transmission Provider has established different requirements that apply to all synchronous generators in the Local Balancing Authority on a comparable basis. The applicable Local Balancing Authority power factor requirements are listed on the Transmission Provider's website at

[https://cdn.misoenergy.org/Reactive\\_Generator\\_Requirements108137.pdf](https://cdn.misoenergy.org/Reactive_Generator_Requirements108137.pdf)

and may be referenced in the Appendices to this GIA. The Generating Facility shall be capable of continuous dynamic operation throughout the power factor design range as measured at the Point of Interconnection. Such operation shall account for the net effect of all energy production devices on the Interconnection Customer's side of the Point of Interconnection.

**9.6.1.2 Inverter-Based Resource Plants.** Interconnection Customer shall design the Generating Facility to be capable of maintaining a composite power delivery at continuous rated power output at the high-side of the generator substation at all power factors over 0.95 leading to 0.95 lagging, unless the Transmission Provider has established different requirements that apply to all inverter-based resource plants in the Local Balancing Authority on a comparable basis. The applicable Local Balancing Authority power factor requirements are listed on the Transmission Provider's website at

[https://cdn.misoenergy.org/Reactive\\_Generator\\_Requirements108137.pdf](https://cdn.misoenergy.org/Reactive_Generator_Requirements108137.pdf)

and may be referenced in the Appendices to this GIA. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two. This requirement shall only apply to newly interconnecting inverter-based resource plants that have not yet completed a System Impact Study as of the effective date of the Final Rule establishing this requirement (Order No. 827). These requirements apply to existing inverter-based resource plants making upgrades that require a new Generator Interconnection Agreement only where the Transmission Provider's System Impact Study shows the need for reactive power as a result of an upgrade. If applicable, these requirements will be memorialized in Appendix C to this GIA.

Additional reactive power requirements for inverter-based resource plants are provided in Appendix G of this GIA.

**9.6.2 Voltage Schedules.** Once Interconnection Customer has synchronized the Generating Facility with the Transmission System, Transmission Provider shall require Interconnection Customer to operate the Generating Facility to produce or absorb reactive power within the design limitations of the Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria), to maintain the output voltage or power factor at the Point of Interconnection as specified by Transmission Provider. Transmission Provider's voltage schedules shall treat all sources of reactive power in the Local Balancing Authority in an equitable and not unduly discriminatory manner. Transmission Provider shall exercise Reasonable Efforts to provide Interconnection Customer with such schedules at least one (1) Calendar Day in advance, and may make changes to such schedules as necessary to maintain the reliability of the Transmission or Distribution System

as applicable. Interconnection Customer shall operate the Generating Facility to maintain the specified output voltage or power factor at the Point of Interconnection within the design limitations of the Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). If Interconnection Customer is unable to maintain the specified voltage or power factor, it shall promptly notify Transmission Provider's system operator, or its designated representative.

**9.6.2.1 Voltage Regulators.** Whenever the Generating Facility is operated in parallel with the Transmission or Distribution System as applicable and voltage regulators are capable of operation, Interconnection Customer shall operate the Generating Facility with its speed governors and voltage regulators in automatic operation. If the Generating Facility's voltage regulators are not capable of such automatic operation, Interconnection Customer shall immediately notify Transmission Provider's system operator, or its designated representative, and ensure that such Generating Facility's reactive power production or absorption (measured in MVARs) are within the design capability of the Generating Facility's generating unit(s) and steady state stability limits. Interconnection Customer shall not cause its Generating Facility to disconnect automatically or instantaneously from the Transmission or Distribution System, as applicable, or trip any generating unit comprising the Generating Facility for an under or over frequency condition unless the abnormal frequency condition persists for a time period beyond the limits set forth in ANSI/IEEE Standard C37.106, or such other standard as applied to other generators in the Local Balancing Authority on a comparable basis.

**9.6.3 Payment for Reactive Power.** Payments for reactive power shall be pursuant to any tariff or rate schedule filed by Transmission Provider and approved by the FERC.



**9.6.4 Primary Frequency Response.** This Section 9.6.4 shall only apply in the event that the Interconnection Request for the Generating Facility completed Definitive Planning Phase Interconnection Customer Decision Point 2 after May 15, 2018.

Interconnection Customer shall ensure the primary frequency response capability of its Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term “functioning governor or equivalent controls” as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Generating Facility’s real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and  $\pm 0.036$  Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based on an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Generating Facility’s real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Generating Facility’s real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or

(2) in accordance with an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. Interconnection Customer shall notify Transmission Provider that the primary frequency response capability of the Generating Facility has been tested and confirmed during commissioning. Once Interconnection Customer has synchronized the Generating Facility with the Transmission System, Interconnection Customer shall operate the Generating Facility consistent with the provisions specified in Sections 9.6.4.1 and 9.6.4.2 of this GIA. The primary frequency response requirements contained herein shall apply to both synchronous and inverter-based resource plant Generating Facilities.

**9.6.4.1 Governor or Equivalent Controls.** Whenever the Generating Facility is operated in parallel with the Transmission System, Interconnection Customer shall operate the Generating Facility with its governor or equivalent controls in service and responsive to frequency.

Interconnection Customer shall: (1) in coordination with Transmission Provider and/or the relevant balancing authority, set the deadband parameter to: (a) a maximum of  $\pm 0.036$  Hz and set the droop parameter to a maximum of 5 percent; or (b) implement the relevant droop and deadband settings from an approved NERC Reliability Standard that provides for equivalent or more stringent parameters. Interconnection Customer shall be required to provide the status and settings of the governor or equivalent controls to Transmission Provider and/or the relevant balancing authority upon request. If Interconnection Customer needs to operate the Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify Transmission Provider and the relevant balancing authority, and provide both with the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a

reasonable estimate of when the governor or equivalent controls will be returned to service. Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Interconnection Customer shall make Reasonable Efforts to keep outages of the Generating Facility's governor or equivalent controls to a minimum whenever the Generating Facility is operated in parallel with the Transmission System.

**9.6.4.2 Timely and Sustained Response.** Interconnection Customer shall ensure that the Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Generating Facility has operating capability in the direction needed to correct the frequency deviation. Interconnection Customer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

**9.6.4.3 Exemptions.** Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from Sections 9.6.4, 9.6.4.1, and 9.6.4.2 of this GIA. Generating Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the

generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in Section 9.6.4, but shall be otherwise exempt from the operating requirements in Sections 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.4 of this GIA.

**9.6.4.4 Electric Storage Resources.** Interconnection Customer interconnecting an electric storage resource shall establish an operating range in Appendix C that specifies a minimum state of charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in Sections 9.6.4, 9.6.4.1, 9.6.4.2 and 9.6.4.3 of this GIA. Appendix C shall specify whether the operating range is static or dynamic, and shall consider (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the electric storage resource; (5) operational limitations of the electric storage resource due to manufacturer specifications; and (6) any other relevant factors agreed to by Transmission Provider and Interconnection Customer, and in consultation with the relevant transmission owner or balancing authority as appropriate. If the operating range is dynamic, then Appendix C must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is required to

provide timely and sustained primary frequency response consistent with Section 9.6.4.2 of this GIA when it is online and dispatched to inject electricity to the Transmission System and/or receive electricity from the Transmission System. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to the Transmission System and/or dispatched to receive electricity from the Transmission System.

**9.6.4.5 Inverter-Based Resource Plants.** Additional primary frequency response requirements for inverter-based resource plants, including electric storage resources, are provided in Appendix G of this GIA.

## **9.7 Outages and Interruptions.**

### **9.7.1 Outages.**

**9.7.1.1 Outage Authority and Coordination.** Interconnection Customer and Transmission Owner may each in accordance with Good Utility Practice in coordination with the other Party and Transmission Provider remove from service any of its respective Interconnection Facilities, System Protection Facilities, Network Upgrades, System Protection Facilities or Distribution Upgrades that may impact the other Party's facilities as necessary to perform maintenance or testing or to install or replace equipment. Absent an Emergency Condition, the Party scheduling a removal of such facility(ies) from service will use Reasonable Efforts to notify one another and schedule such removal on a date and time mutually acceptable to the Parties. In all circumstances, any Party planning to remove such facility(ies) from service shall use Reasonable Efforts to minimize the effect on the other Parties of such removal.

**9.7.1.2 Outage Schedules.** Transmission Provider shall post scheduled outages of transmission facilities on the OASIS. Interconnection Customer shall submit its planned maintenance schedules for the Generating Facility to Transmission Provider and Transmission Owner for a minimum of a rolling twenty-four (24) month period in accordance with the Transmission Provider's procedures. Interconnection Customer shall update its planned maintenance schedules as necessary. Transmission Provider may request Interconnection Customer to reschedule its maintenance as necessary to maintain the reliability of the Transmission System; provided, however, adequacy of generation supply shall not be a criterion in determining Transmission System reliability.

Transmission Provider shall compensate, pursuant to applicable Transmission Provider tariff or rate schedule, Interconnection Customer for any additional direct costs that Interconnection Customer incurs as a result of having to reschedule maintenance, including any additional overtime, breaking of maintenance contracts or other costs above and beyond the cost Interconnection Customer would have incurred absent the Transmission Provider's request to reschedule maintenance.

Interconnection Customer will not be eligible to receive compensation, if during the twelve (12) months prior to the date of the scheduled maintenance, Interconnection Customer had modified its schedule of maintenance activities.

Costs shall be determined by negotiation between Transmission Provider and Interconnection Customer prior to implementation of the voluntary change in outage schedules, or if such request is made by or on behalf of a Transmission Customer requesting firm service, costs and recovery of costs shall be determined through a bilateral agreement between the Transmission Customer and Interconnection Customer. Voluntary

changes to outage schedules under this Article 9.7.1.2 are separate from actions and compensation required under Article 13 and for which costs are recovered in accordance with Transmission Provider's applicable tariff or rate schedule.

**9.7.1.3 Outage Restoration.** If an outage on either the Interconnection Customer's or Transmission Owner's Interconnection Facilities, Network Upgrades, System Protection Facilities or Distribution Upgrades adversely affects a Party's operations or facilities, the Party that owns or controls the facility that is out of service shall use Reasonable Efforts to promptly restore such facility(ies) to a normal operating condition consistent with the nature of the outage. The Party that owns or controls the facility that is out of service shall provide the other Parties, to the extent such information is known, information on the nature of the Emergency Condition, an estimated time of restoration, and any corrective actions required. Initial verbal notice shall be followed up as soon as practicable with written notice to the other Parties explaining the nature of the outage.

**9.7.2 Interruption of Service.** If required by Good Utility Practice to do so, Transmission Provider may require Interconnection Customer to interrupt or reduce deliveries of electricity if such delivery of electricity could adversely affect Transmission Provider's ability to perform such activities as are necessary to safely and reliably operate and maintain the Transmission System. The following provisions shall apply to any interruption or reduction permitted under this Article 9.7.2:

**9.7.2.1** The interruption or reduction shall continue only for so long as reasonably necessary under Good Utility Practice;

- 9.7.2.2** Any such interruption or reduction shall be made on an equitable, non-discriminatory basis with respect to all generating facilities directly connected to the Transmission or Distribution System, as applicable;
- 9.7.2.3** When the interruption or reduction must be made under circumstances which do not allow for advance notice, Transmission Provider shall notify Interconnection Customer by telephone as soon as practicable of the reasons for the curtailment, interruption, or reduction, and, if known, its expected duration. Telephone notification shall be followed by written notification as soon as practicable;
- 9.7.2.4** Except during the existence of an Emergency Condition, when the interruption or reduction can be scheduled without advance notice, Transmission Provider shall notify Interconnection Customer in advance regarding the timing of such scheduling and further notify Interconnection Customer of the expected duration. Transmission Provider shall coordinate with Interconnection Customer using Good Utility Practice to schedule the interruption or reduction during periods of least impact to Interconnection Customer, Transmission Owner and Transmission Provider;
- 9.7.2.5** The Parties shall cooperate and coordinate with each other to the extent necessary in order to restore the Generating Facility, Interconnection Facilities, and the Transmission or Distribution System, as applicable to their normal operating state, consistent with system conditions and Good Utility Practice.
- 9.7.3** Under-Frequency, Over-Frequency, Under-Voltage, and Over-Voltage Conditions. The Transmission System is designed to automatically activate a load-shed program as required by the Applicable Reliability Council in the event



of an under-frequency or under-voltage system disturbance. Interconnection Customer shall implement under-frequency, over-frequency, under-voltage, and over-voltage relay set points for the Generating Facility as required by the Applicable Reliability Council to ensure “ride through” capability of the Transmission System. Generating Facility response to frequency and/or voltage deviations of pre-determined magnitudes, including under-frequency, over-frequency, under-voltage, and over-voltage, shall be studied and coordinated with Transmission Provider in accordance with Good Utility Practice. The term “ride through” as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the Transmission System during system disturbances within a range of under-frequency, over-frequency, under-voltage, and over-voltage conditions, in accordance with Good Utility Practice.

#### **9.7.4 System Protection and Other Control Requirements.**

**9.7.4.1** System Protection Facilities. Interconnection Customer shall, at its expense, install, operate and maintain its System Protection Facilities as a part of the Generating Facility or the Interconnection Customer’s Interconnection Facilities. Transmission Owner shall install at Interconnection Customer’s expense any Transmission Owner’s System Protection Facilities that may be required on the Transmission Owner’s Interconnection Facilities or the Transmission Owner’s transmission or distribution facilities as a result of the interconnection of the Generating Facility and the Interconnection Customer’s Interconnection Facilities.

**9.7.4.2** Interconnection Customer’s and Transmission Owner’s System Protection Facilities shall be designed and coordinated with Affected Systems in accordance with Good Utility Practice.

**9.7.4.3** Each Party shall be responsible for protection of its facilities consistent

with Good Utility Practice.

**9.7.4.4** Each Party's protective relay design shall incorporate the necessary test switches to perform the tests required in Article 6. The required test switches will be placed such that they allow operation of lockout relays while preventing breaker failure schemes from operating and causing unnecessary breaker operations and/or the tripping of the Generating Facility.

**9.7.4.5** Each Party will test, operate and maintain their respective System Protection Facilities in accordance with Good Utility Practice.

**9.7.4.6** Prior to the In-Service Date, and again prior to the Commercial Operation Date, Interconnection Customer or Transmission Owner, or their respective agents, shall perform a complete calibration test and functional trip test of the System Protection Facilities. At intervals suggested by Good Utility Practice and following any apparent malfunction of the System Protection Facilities, Interconnection Customer or Transmission Owner shall each perform both calibration and functional trip tests of their respective System Protection Facilities. These tests do not require the tripping of any in-service generating unit. These tests do, however, require that all protective relays and lockout contacts be activated.

**9.7.5 Requirements for Protection.** In compliance with Good Utility Practice, Interconnection Customer shall provide, install, own, and maintain relays, circuit breakers and all other devices necessary to remove any fault contribution of the Generating Facility to any short circuit occurring on the Transmission or Distribution System, as applicable, not otherwise isolated by Transmission Owner's equipment, such that the removal of the fault contribution shall be

coordinated with the protective requirements of the Transmission or Distribution System, as applicable. Such protective equipment shall include, without limitation, a disconnecting device or switch with load-interrupting capability located between the Generating Facility and the Transmission or Distribution System, as applicable, at a site selected upon mutual agreement (not to be unreasonably withheld, conditioned or delayed) of the Parties. Interconnection Customer shall be responsible for protection of the Generating Facility and Interconnection Customer's other equipment from such conditions as negative sequence currents, over- or under-frequency, sudden load rejection, over- or under-voltage, and generator loss-of-field. Interconnection Customer shall be solely responsible to disconnect the Generating Facility and Interconnection Customer's other equipment if conditions on the Transmission or Distribution System, as applicable, could adversely affect the Generating Facility.

**9.7.6 Power Quality.** Neither Party's facilities shall cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.1, in accordance with IEEE Standard 519, or any applicable superseding electric industry standard. In the event of a conflict between ANSI Standard C84.1, and any applicable superseding electric industry standard, the applicable superseding electric industry standard shall control.

**9.8 Switching and Tagging Rules.** Prior to the Initial Synchronization Date, each Party shall provide the other Parties a copy of its switching and tagging rules that are applicable to the other Parties' activities. Such switching and tagging rules shall be developed on a non-discriminatory basis. The Parties shall comply with applicable switching and tagging rules, as amended from time to time, in obtaining clearances for work or for switching operations on equipment.

**9.9 Use of Interconnection Facilities by Other Parties.**

**9.9.1** Purpose of Interconnection Facilities. Except as may be required by Applicable Laws and Regulations, or as otherwise agreed to among the Parties, the Interconnection Facilities shall be constructed for the sole purpose of interconnecting the Generating Facility to the Transmission or Distribution System, as applicable, and shall be used for no other purpose.

**9.9.2** Other Users. If required by Applicable Laws and Regulations or if the Parties mutually agree, such agreement not to be unreasonably withheld or delayed, to allow one or more Parties to use the Transmission Owner's Interconnection Facilities, or any part thereof, Interconnection Customer will be entitled to compensation for the capital expenses it incurred in connection with the Interconnection Facilities based upon the pro rata use of the Interconnection Facilities by Transmission Owner, all non-Party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually-agreed upon methodology. In addition, cost responsibility for ongoing costs, including operation and maintenance costs associated with the Interconnection Facilities, will be allocated between Interconnection Customer and any non-Party users based upon the pro rata use of the Interconnection Facilities by Transmission Owner, all non-Party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually agreed upon methodology. If the issue of such compensation or allocation cannot be resolved through such negotiations, it shall be submitted to Dispute Resolution pursuant to Section 12 of the Tariff.

**9.10 Disturbance Analysis Data Exchange.** The Parties will cooperate with one another in the analysis of disturbances to either the Generating Facility or the Transmission System by gathering and providing access to any information relating to any disturbance, including information from oscillography, protective relay targets, breaker operations and sequence of events records, and any disturbance information required by Good Utility Practice.

## ARTICLE 10. MAINTENANCE

- 10.1 Transmission Owner Obligations.** Transmission Owner shall maintain the Transmission Owner's Interconnection Facilities in a safe and reliable manner and in accordance with this GIA and all Applicable Laws and Regulations.
- 10.2 Interconnection Customer Obligations.** Interconnection Customer shall maintain the Generating Facility and the Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this GIA and all Applicable Laws and Regulations.
- 10.3 Coordination.** The Parties shall confer regularly to coordinate the planning, scheduling and performance of preventive and corrective maintenance on the Generating Facility and the Interconnection Facilities.
- 10.4 Secondary Systems.** Each Party shall cooperate with the other in the inspection, maintenance, and testing of control or power circuits that operate below 600 volts, AC or DC, including, but not limited to, any hardware, control or protective devices, cables, conductors, electric raceways, secondary equipment panels, transducers, batteries, chargers, and voltage and current transformers that directly affect the operation of a Party's facilities and equipment which may reasonably be expected to impact another Party. Each Party shall provide advance notice to the other Parties before undertaking any work on such circuits, especially on electrical circuits involving circuit breaker trip and close contacts, current transformers, or potential transformers.
- 10.5 Operating and Maintenance Expenses.** Subject to the provisions herein addressing the use of facilities by others, and except for operations and maintenance expenses associated with modifications made for providing Interconnection Service or Transmission Service to a non-Party and such non-Party pays for such expenses, Interconnection Customer

shall be responsible for all reasonable expenses including overheads, associated with:  
(1) owning, operating, maintaining, repairing, and replacing Interconnection Customer's Interconnection Facilities; and (2) operation, maintenance, repair and replacement of Transmission Owner's Interconnection Facilities to the extent required by Transmission Owner on a comparable basis.

## **ARTICLE 11. PERFORMANCE OBLIGATION**

- 11.1 Interconnection Customer's Interconnection Facilities.** Interconnection Customer shall design, procure, construct, install, own and/or control the Interconnection Customer's Interconnection Facilities described in Appendix A at its sole expense.
- 11.2 Transmission Owner's Interconnection Facilities.** Transmission Owner shall design, procure, construct, install, own and/or control the Transmission Owner's Interconnection Facilities described in Appendix A at the sole expense of Interconnection Customer.
- 11.3 Network Upgrades, System Protection Facilities and Distribution Upgrades.** Transmission Owner shall design, procure, construct, install, and own the Network Upgrades, Transmission Owner's System Protection Facilities and Distribution Upgrades described in Appendix A. Interconnection Customer shall be responsible for all costs related to Distribution Upgrades and/or Generator Upgrades. As required by Section 7.3.2.1 and 7.3.3.1 of Attachment X, Transmission Owner shall have provided Transmission Provider with written notice if Transmission Owner elects to fund the capital for the Network Upgrades and Transmission Owner's System Protection Facilities; otherwise, such facilities, if any, shall be solely funded by Interconnection Customer. In the event that the Transmission Owner elects to fund the capital costs of the Network Upgrades and/or Transmission Owner's System Protection Facilities, then the Parties shall enter into a Facilities Service Agreement. The Facilities Service Agreement shall take the form of the *pro forma* Facilities Service Agreement that is included as Appendix 14 of Attachment X to the MISO Tariff.

**11.3.1 Contingencies Affecting Network Upgrades, System Protection Facilities and Distribution Upgrades.** Network Upgrades, System Protection Facilities and Distribution Upgrades that are required to accommodate the Generating Facility may be modified because (1) a higher queued Interconnection Request withdrew or was deemed to have withdrawn, (2) the interconnection agreement associated with a higher queued Interconnection Request was terminated prior to the project's In-Service Date, (3) the Commercial Operation Date for a higher queued Interconnection Request is delayed, or the project itself is delayed (including due to suspension) such that facilities required to accommodate lower queued projects or the project itself may be altered, (4) the queue position is reinstated for a higher-queued Interconnection Request whose queue position was subject to dispute resolution, (5) changes occur in Transmission Provider or Transmission Owner equipment design standards or reliability criteria giving rise to the need for restudy, (6) the facilities required to accommodate a higher queued Interconnection Request were modified constituting a Material Modification pursuant to Section 4.4 of the GIP, (7) a GIA with an effective date prior to this GIA is terminated, (8) when ordered to restudy by FERC, or (9) the Network Upgrade Facilities Study for a Network Upgrade, which is to be included in this GIA, is completed after execution of this GIA. The higher queued Interconnection Requests that could impact the Network Upgrades, System Protection Facilities and Distribution Upgrades required to accommodate the Generating Facility, and possible Modifications that may result from the above listed events affecting the higher queued Interconnection Requests, to the extent such modifications are reasonably known and can be determined, and estimates of the costs associated with such required Network Upgrades, System Protection Facilities and Distribution Upgrades, are provided in Appendix A.

**11.3.2 Agreement to Restudy and Cost Reallocation.** In the event that one of the contingencies listed in Article 11.3.1 occurs, at any time before the Network

Upgrades, Common Use Upgrades, Shared Network Upgrades, System Protection Facilities and/or Distribution Upgrades associated with higher queued Interconnection Requests with GIA in effect prior to this GIA are completed, Transmission Provider may determine, in its discretion, that a restudy is required. If a restudy is required, Transmission Provider will provide notice to Interconnection Customer and Interconnection Customer agrees to enter into an Interconnection Study Agreement for such restudy. Transmission Provider will reevaluate the need for any Common Use Upgrade(s) and/or Shared Network Upgrade(s), and if still required, reallocate the cost and responsibility for any Common Use Upgrade and/or Shared Network Upgrade, without a restudy when possible, or with a restudy if the Transmission Provider deems it necessary in order to ensure reliability of the Transmission System. The Parties agree to amend Appendix A to this GIA in accordance with Article 30.10 to reflect the results of any cost reallocation required under this Article 11.3.2.

**11.3.3 Agreement to Fund Shared Network Upgrades.** Interconnection Customer agrees to fund Shared Network Upgrades, as determined by Transmission Provider. Where applicable, payments to fund Shared Network Upgrade(s) that are made to Transmission Provider by Interconnection Customer will be disbursed by Transmission Provider to the appropriate entities that funded the Shared Network Upgrades in accordance with Attachment X and Attachment FF of the Tariff. In the event that Interconnection Customer fails to meet its obligation to fund Shared Network Upgrades, Transmission Owner and Transmission Provider shall not be responsible for the Interconnection Customer's funding obligation.

#### **11.4 Transmission Credits.**

**11.4.1 Repayment of Amounts Advanced for Network Upgrades.** Interconnection Customer shall be entitled to a cash repayment by Transmission Owner(s) and the Affected System Owner(s) that own the Network Upgrades, of the amount



paid respectively to Transmission Owner and Affected System Operator, if any, for the Network Upgrades, as provided under Attachment FF of this Tariff and including any tax gross-up or other tax-related payments associated with the repayable portion of the Network Upgrades, and not repaid to Interconnection Customer pursuant to Article 5.17.8 or otherwise, to be paid to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, as payments are made under the Tariff and Affected System's Tariff for Transmission Services with respect to the Generating Facility. Any repayment shall include interest calculated in accordance with the methodology set forth in FERC's regulations at 18 C.F.R. § 35.19 (a)(2)(iii) from the date of any payment for Network Upgrades through the date on which Interconnection Customer receives a repayment of such payment pursuant to this subparagraph. Interest shall not accrue during periods in which Interconnection Customer has suspended construction pursuant to Article 11 or the Network Upgrades have been determined not to be needed pursuant to this Article 11.4.1. Interconnection Customer may assign such repayment rights to any person.

If the Generating Facility is designated a Network Resource under the Tariff, or if there are otherwise no incremental payments for Transmission Service resulting from the use of the Generating Facility by Transmission Customer, and in the absence of another mutually agreeable payment schedule any repayments provided under Attachment FF shall be established equal to the applicable rate for Firm Point-To-Point Transmission Service for the pricing zone where the Network Load is located multiplied by the portion of the demonstrated output of the Generating Facility designated as a Network Resource by the Network Customer(s) or in the absence of such designation, equal to the monthly firm single system-wide rate defined under Schedule 7 of the Tariff multiplied by the portion of the demonstrated output of the Generating Facility under contract to Network Customer(s) and consistent with studies pursuant to Section 3.2.2.2 of

the GIP.

Notwithstanding the foregoing, as applicable and consistent with the provisions of Attachment FF of this Tariff, Interconnection Customer, Transmission Provider, Transmission Owner, and Affected System Operator may adopt any alternative payment schedule that is mutually agreeable so long as Transmission Owner and Affected System Operator take one of the following actions no later than five (5) years from the Commercial Operation Date: (1) return to Interconnection Customer any amounts advanced for Network Upgrades not previously repaid, or (2) declare in writing that Transmission Owner or Affected System Operator will continue to provide payments to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, or develop an alternative schedule that is mutually agreeable and provides for the return of all amounts advanced for Network Upgrades not previously repaid; however, full reimbursement shall not extend beyond twenty (20) years from the Commercial Operation Date.

If the Generating Facility is installed in phases, the amount eligible for refund as each phase achieves Commercial Operation will be reduced by the proportional amount of generation capacity not yet installed. However, all facilities in Appendix A other than the Generating Facility shall be built without consideration for the phasing of the Generating Facility as though the entire Generating Facility will be placed in Commercial Operation for the full output or increased output of the Generating Facility constructed by Interconnection Customer under this GIA.

If the Generating Facility fails to achieve Commercial Operation, but it or another generating facility is later constructed and makes use of the Network Upgrades, Transmission Owner and Affected System Operator shall at that time reimburse Interconnection Customer for the remaining applicable amounts that

may be refundable pursuant to Attachment FF of this Tariff that were advanced for the Network Upgrades on their respective systems as described above. Before any such reimbursement can occur, Interconnection Customer, or the entity that ultimately constructs the Generating Facility, if different, is responsible for identifying the entity to which the reimbursement must be made.

**11.4.2** Special Provisions for Transmission Provider as an Affected System to be covered under Separate Agreements. When the Transmission Owner's Transmission or Distribution System (including for this Article 11.4.2 independent distribution systems connected to the Transmission System) is an Affected System for an interconnection in another electric system, Transmission Provider will coordinate the performance of Interconnection Studies with the other system. Transmission Provider will determine if any Network Upgrades or Distribution Upgrades, which may be required on the Transmission System as a result of the interconnection, would not have been needed but for the interconnection. Unless Transmission Owner provides, under the interconnection agreement between Interconnection Customer and the other system, for the repayment of amounts advanced to Transmission Provider or an impacted Transmission Owner for Network Upgrades, Interconnection Customer, Transmission Provider, and the impacted Transmission Owner(s) shall enter into an agreement that provides for such repayment by Transmission Owner(s) as directed by Transmission Provider. The agreement shall specify the terms governing payments to be made by Interconnection Customer to the Affected System Operator as well as the payment of refunds by the Affected System Operator.

**11.4.3** Notwithstanding any other provision of this GIA, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that Interconnection Customer, shall be entitled to, now or

in the future under any other agreement or tariff as a result of, or otherwise associated with, the transmission capacity, if any, created by the Network Upgrades, including the right to obtain cash reimbursement or transmission credits for transmission service that is not associated with the Generating Facility.

**11.5 Initial Payment.** For upgrades that the Transmission Owner has elected to self-fund, the Interconnection Customer is responsible for making the initial payment for the total cost of Network Upgrades (excluding JTIQ Upgrades) or Transmission Owner's System Protection Facilities in the form of security pursuant to Article 11.6. For upgrades where the Transmission Owner did not elect to self-fund, the Interconnection Customer shall elect (and provide its election to the Transmission Provider within five days of the commencement of negotiation of the GIA pursuant to Section 11.2 of the GIP) to make either 1) an initial payment equal to twenty (20) percent of the total cost of Network Upgrades (excluding JTIQ Upgrades), Transmission Owner Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and/or Generator Upgrades (if the In-Service Date is less than or equal to five (5) years of the initial payment date); or 2) an initial payment equal to ten (10) percent of the total cost of Network Upgrades (excluding JTIQ Upgrades), Transmission Owner Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and/or Generator Upgrades (if the In-Service Date exceeds the initial payment date by more than five (5) years); or 3) the total cost of Network Upgrades (excluding JTIQ Upgrades), Transmission Owner Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and/or Generator Upgrades in the form of security pursuant to Article 11.6. The initial payment shall be provided to Transmission Owner by Interconnection Customer pursuant to this Article 11.5 within the later of a) forty-five (45) Calendar Days of the execution of the GIA by all Parties, or b) forty-five (45) Calendar Days of acceptance by FERC if the GIA is filed unexecuted and the payment is being protested by Interconnection Customer, or c) forty-five (45) Calendar Days of the filing if the GIA is filed unexecuted and the initial payment is not

being protested by Interconnection Customer. If the Interconnection Customer made its milestone payments in the form of cash and the Interconnection Customer elects a cash initial payment, then the Transmission Provider shall transfer those funds to the Transmission Owner on the Interconnection Customer's behalf.

**11.6 Provision of Security.** Unless a milestone cash payment schedule is provided in Appendix B, Interconnection Customer shall, at least forty-five (45) Calendar Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of a facility, not otherwise funded under Article 11.5, provide additional security. Additionally, the Interconnection Customer will be required to provide security more than forty-five (45) Calendar Days in advance if requested by Transmission Owner because regulatory approvals are required for the construction of such facilities. Interconnection Customer shall provide Transmission Owner, at Interconnection Customer's selection, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Transmission Owner and is consistent with the Uniform Commercial Code of the jurisdiction identified in Article 14.2.1. Such security for payment shall be in an amount sufficient to cover the applicable costs and cost commitments, in addition to those funded under Article 11.5, required of the Party responsible for building the facilities pursuant to the construction schedule developed in Appendix B for designing, engineering, seeking regulatory approval from any Governmental Authority, constructing, procuring and installing the applicable portion of the Transmission Owner's Interconnection Facilities, Transmission Owner's System Protection Facilities, Network Upgrades, Distribution Upgrades or Stand-Alone Network Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Owner for these purposes.

In addition:

**11.6.1** The guarantee must be made by an entity that meets the creditworthiness requirements of Transmission Owner, and contain terms and conditions that

guarantee payment of any amount that may be due from Interconnection Customer, up to an agreed-to maximum amount.

- 11.6.2** The letter of credit must be issued by a financial institution reasonably acceptable to Transmission Owner and must specify a reasonable expiration date.
- 11.6.3** The surety bond must be issued by an insurer reasonably acceptable to Transmission Owner and must specify a reasonable expiration date.
- 11.6.4** If the Shared Network Upgrade is not in service, Interconnection Customer will not be required to make a payment under Schedule 26-B until the Shared Network Upgrade is in service, but Interconnection Customer will provide, as applicable, an Irrevocable Letter of Credit to fund any Shared Network Upgrade pursuant to Attachment FF of the Tariff. The Irrevocable Letter of Credit shall be in an amount sufficient to cover the Interconnection Customer's share of the applicable costs and cost commitments associated with the Shared Network Upgrades. Transmission Provider may periodically adjust the Interconnection Customer's share of the applicable costs and cost commitment of Shared Network Upgrades and may require Interconnection Customer to adjust the amount of the Irrevocable Letter of Credit accordingly.
- 11.7 Interconnection Customer Compensation.** If Transmission Provider requests or directs Interconnection Customer to provide a service pursuant to Article 13.4 of this GIA, Transmission Provider shall compensate Interconnection Customer in accordance with any tariff or rate schedule filed by Transmission Provider and approved by the FERC.
- 11.8 Provision of Security for JTIQ Upgrades.** If the Transmission Provider determines that the Interconnection Request meets the distribution factor and impact criteria specified in Section 9.4.2(d)((ii) of Rate Schedule 6 (MISO SPP JOA) and is included in the JTIQ

Participation Group, Interconnection Customer shall be required to provide security in accordance with Attachment X, Appendix 18 (MISO JTIQ Commitment Agreement) and SPP's JTIQ Service Agreement.

## ARTICLE 12. INVOICE

- 12.1 General.** Each Party shall submit to the other Party, on a monthly basis, invoices of amounts due, if any, for the preceding month. Each invoice shall state the month to which the invoice applies and fully describe the services and equipment provided. The Parties may discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts a Party owes to the other Party under this GIA, including interest payments or credits, shall be netted so that only the net amount remaining due shall be paid by the owing Party.
- 12.2 Final Invoice.** Within six (6) months after completion of the construction of the Transmission Owner's Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and the Network Upgrades, Transmission Owner shall provide an invoice of the final cost of the construction of the Transmission Owner's Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and the Network Upgrades and shall set forth such costs in sufficient detail to enable Interconnection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Transmission Owner shall refund, with interest (calculated in accordance with 18 C.F.R. Section 35.19a(a)(2)(iii), to Interconnection Customer any amount by which the actual payment by Interconnection Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.
- 12.3 Payment.** Invoices shall be rendered to the paying Party at the address specified in Appendix F. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. All payments shall be made in immediately available funds

payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party. Payment of invoices by a Party will not constitute a waiver of any rights or claims that Party may have under this GIA.

- 12.4 Disputes.** In the event of a billing dispute among the Parties, Transmission Provider shall continue to provide Interconnection Service under this GIA as long as Interconnection Customer: (i) continues to make all payments not in dispute; and (ii) pays to Transmission Provider or Transmission Owner or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If Interconnection Customer fails to meet these two requirements for continuation of service, then Transmission Provider may or, at Transmission Owner's request upon Interconnection Customer's failure to pay, Transmission Owner, shall provide notice to Interconnection Customer of a Default pursuant to Article 17. Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to another Party shall pay the amount due with interest calculated in accord with the methodology set forth in 18 C.F.R. § 35.19a(a)(2)(iii).

### ARTICLE 13. EMERGENCIES

- 13.1 Obligations.** Each Party shall comply with the Emergency Condition procedures of Transmission Provider, NERC, the Applicable Reliability Council, and Applicable Laws and Regulations.
- 13.2 Notice.** Transmission Provider or Transmission Owner shall notify the other Parties promptly when it becomes aware of an Emergency Condition that affects the Transmission Owner's Interconnection Facilities or the Transmission or Distribution System, as applicable, that may reasonably be expected to affect Interconnection Customer's operation of the Generating Facility or the Interconnection Customer's Interconnection Facilities.



Interconnection Customer shall notify Transmission Provider and Transmission Owner, which includes by definition if applicable, the operator of a Distribution System, promptly when it becomes aware of an Emergency Condition that affects the Generating Facility or the Interconnection Customer's Interconnection Facilities that may reasonably be expected to affect the Transmission or Distribution System, as applicable, or the Transmission Owner's Interconnection Facilities.

To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Interconnection Customer's or Transmission Provider's or Transmission Owner's facilities and operations, its anticipated duration and the corrective action taken and/or to be taken. The initial notice shall be followed as soon as practicable with written notice.

**13.3 Immediate Action.** Unless, in a Party's reasonable judgment, immediate action is required, the Party exercising such judgment shall notify and obtain the consent of the other Parties, such consent to not be unreasonably withheld, prior to performing any manual switching operations at the Generating Facility or the Interconnection Customer's Interconnection Facilities in response to an Emergency Condition either declared by Transmission Provider or otherwise regarding the Transmission or Distribution System, as applicable.

**13.4 Transmission Provider and Transmission Owner Authority.**

**13.4.1 General.** Transmission Provider or Transmission Owner may take whatever actions or inactions with regard to the Transmission System or the Transmission Owner's Interconnection Facilities it deems necessary during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Transmission System or the Transmission Owner's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service.

Transmission Provider or Transmission Owner shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Generating Facility or the Interconnection Customer's Interconnection Facilities. Transmission Provider or Transmission Owner may, on the basis of technical considerations, require the Generating Facility to mitigate an Emergency Condition by taking actions necessary and limited in scope to remedy the Emergency Condition, including, but not limited to, directing Interconnection Customer to shut-down, start-up, increase or decrease the real or reactive power output of the Generating Facility; implementing a reduction or disconnection pursuant to Article 13.4.2; directing Interconnection Customer to assist with blackstart (if available) or restoration efforts; or altering the outage schedules of the Generating Facility and the Interconnection Customer's Interconnection Facilities. Interconnection Customer shall comply with all of Transmission Provider's or Transmission Owner's operating instructions concerning Generating Facility real power and reactive power output within the manufacturer's design limitations of the Generating Facility's equipment that is in service and physically available for operation at the time, in compliance with Applicable Laws and Regulations.

- 13.4.2** Reduction and Disconnection. Transmission Provider or Transmission Owner may reduce Interconnection Service or disconnect the Generating Facility or the Interconnection Customer's Interconnection Facilities, when such reduction or disconnection is necessary under Good Utility Practice due to Emergency Conditions. These rights are separate and distinct from any right of curtailment of Transmission Provider pursuant to the Tariff. When Transmission Provider can schedule the reduction or disconnection in advance, Transmission Provider shall notify Interconnection Customer of the reasons, timing and expected duration of the reduction or disconnection. Transmission Provider shall coordinate with Interconnection Customer and Transmission Owner using Good Utility Practice to schedule the reduction or disconnection during periods of

least impact to Interconnection Customer, Transmission Owner and Transmission Provider. Any reduction or disconnection shall continue only for so long as reasonably necessary pursuant to Good Utility Practice. The Parties shall cooperate with each other to restore the Generating Facility, the Interconnection Facilities, and the Transmission System to their normal operating state as soon as practicable consistent with Good Utility Practice.

**13.5 Interconnection Customer Authority.** Consistent with Good Utility Practice and this GIA and the GIP, Interconnection Customer may take whatever actions or inactions with regard to the Generating Facility or the Interconnection Customer's Interconnection Facilities during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Generating Facility or the Interconnection Customer's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service. Interconnection Customer shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Transmission System and the Transmission Owner's Interconnection Facilities. Transmission Provider and Transmission Owner shall use Reasonable Efforts to assist Interconnection Customer in such actions.

**13.6 Limited Liability.** Except as otherwise provided in Article 11.6 of this GIA, no Party shall be liable to any other for any action it takes in responding to an Emergency Condition so long as such action is made in good faith and is consistent with Good Utility Practice.

**13.7 Audit.** In accordance with Article 25.3, any Party may audit the performance of another Party when that Party declared an Emergency Condition.

## **ARTICLE 14. REGULATORY REQUIREMENTS AND GOVERNING LAW**

**14.1 Regulatory Requirements.** Each Party's obligations under this GIA shall be subject to

its receipt of any required approval or certificate from one or more Governmental Authorities in the form and substance satisfactory to the applying Party, or the Party making any required filings with, or providing notice to, such Governmental Authorities, and the expiration of any time period associated therewith. Each Party shall in good faith seek, and if necessary assist the other Party and use its Reasonable Efforts to obtain such other approvals. Nothing in this GIA shall require Interconnection Customer to take any action that could result in its inability to obtain, or its loss of, status or exemption under the Federal Power Act, the Public Utility Holding Company Act of 2005, as amended, or the Public Utility Regulatory Policies Act of 1978.

## **14.2 Governing Law.**

**14.2.1** The validity, interpretation and performance of this GIA and each of its provisions shall be governed by the laws of the state where the Point of Interconnection is located, without regard to its conflicts of law principles.

**14.2.2** This GIA is subject to all Applicable Laws and Regulations.

**14.2.3** Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

## **ARTICLE 15. NOTICES**

**15.1 General.** Unless otherwise provided in this GIA, any notice, demand or request required or permitted to be given by any Party to the other Parties and any instrument required or permitted to be tendered or delivered by a Party in writing to the other Parties shall be effective when delivered and may be so given, tendered or delivered, by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party, at the address set out in Appendix F, Addresses for

Delivery of Notices and Billings.

Either Party may change the notice information in this GIA by giving five (5) Business Days written notice prior to the effective date of the change.

**15.2 Billings and Payments.** Billings and payments shall be sent to the addresses set out in Appendix F.

**15.3 Alternative Forms of Notice.** Any notice or request required or permitted to be given by any Party to the other and not required by this GIA to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out in Appendix F.

**15.4 Operations and Maintenance Notice.** Each Party shall notify the other Parties in writing of the identity of the person(s) that it designates as the point(s) of contact with respect to the implementation of Articles 9 and 10.

## **ARTICLE 16. FORCE MAJEURE**

**16.1 Force Majeure.**

**16.1.1** Economic hardship is not considered a Force Majeure event.

**16.1.2** A Party shall not be considered to be in Default with respect to any obligation hereunder, (including obligations under Article 4 and 5), other than the obligation to pay money when due, if prevented from fulfilling such obligation by Force Majeure. A Party unable to fulfill any obligation hereunder (other than an obligation to pay money when due) by reason of Force Majeure shall give notice and the full particulars of such Force Majeure to the other Parties in writing or by telephone as soon as reasonably possible after the occurrence of

the cause relied upon. Telephone, facsimile or email notices given pursuant to this Article shall be confirmed in writing as soon as reasonably possible and shall specifically state full particulars of the Force Majeure, the time and date when the Force Majeure occurred and when the Force Majeure is reasonably expected to cease. The Party affected shall exercise Reasonable Efforts to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

## **ARTICLE 17. DEFAULT**

### **17.1 Default**

**17.1.1** General. No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of Force Majeure as defined in this GIA or the result of an act or omission of another Party. Upon a Breach, the non-Breaching Party or Parties shall give written notice of such Breach to the Breaching Party with a copy to the other Party if one Party gives notice of such Breach. Except as provided in Article 17.1.2, the Breaching Party shall have thirty (30) Calendar Days from receipt of the Breach notice within which to cure such Breach; provided however, if such Breach is not capable of cure within thirty (30) Calendar Days, the Breaching Party shall commence such cure within thirty (30) Calendar Days after notice and continuously and diligently complete such cure within ninety (90) Calendar Days from receipt of the Breach notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.

**17.1.2** Termination. If a Breach is not cured as provided in this Article, or if a Breach is not capable of being cured within the period provided for herein, the non-Breaching Party or Parties shall terminate this GIA, subject to Article 2.3.2 of

this GIA, by written notice to the Breaching Party, with a copy to the other Party if one Party gives notice of termination, and be relieved of any further obligation hereunder and, whether or not that Party(ies) terminates this GIA, to recover from the Breaching Party all amounts due hereunder, plus all other damages and remedies to which it is (they are) entitled at law or in equity. The provisions of this Article will survive termination of this GIA.

- 17.1.3** Cross-Default. Pursuant to Article 11.3 of this GIA, the Parties shall enter into a Facilities Service Agreement if the Transmission Owner has elected to fund the capital for the Network Upgrades and/or Transmission Owner's System Protection Facilities. Notwithstanding anything to the contrary contained in this GIA, a breach by Interconnection Customer of any provision, covenant, or other term or condition contained in the Facilities Service Agreement shall be considered a breach under this GIA. Such breach shall be subject to the terms of Article 17 of this GIA. If a default under this GIA results from the Interconnection Customer's breach of the Facilities Service Agreement and subsequent failure to cure, the Transmission Owner and Transmission Provider shall be entitled, but in no event required, to apply all rights and remedies available by reason of default under the Facilities Service Agreement and this GIA.

Pursuant to Section 11.3 of the GIP, an Interconnection Customer included in a JTIQ Participation Group shall execute or request the unexecuted filing both of the Transmission Provider's JTIQ Commitment Agreement and the JTIQ Service Agreement included in SPP's tariff. Notwithstanding anything to the contrary contained in this GIA, a breach by Interconnection Customer of any provision, covenant, or other term or condition contained in the JTIQ Commitment Agreement or SPP's JTIQ Service Agreement shall be considered a breach under this GIA. Such breach shall be subject to the terms of Article 17 of this GIA provided, however, that the manner and timing of cure of such

breach shall adhere to the requirements of the applicable agreement and cure in accordance with the provisions of such agreement shall also cure the breach of this GI. If a default under this GIA results from the Interconnection Customer's breach of the JTIQ Commitment Agreement or SPP JTIQ Service Agreement and subsequent failure to cure, the Transmission Owner and Transmission Provider shall be entitled, but in no event required, to apply all rights and remedies available by reason of default under the JTIQ Commitment Agreement, SPP JTIQ Service Agreement, and this GIA.

## **ARTICLE 18. LIMITATION OF LIABILITY, INDEMNITY, CONSEQUENTIAL DAMAGES AND INSURANCE**

**18.1 Limitation of Liability.** A Party shall not be liable to another Party or to any third party or other person for any damages arising out of actions under this GIA, including, but not limited to, any act or omission that results in an interruption, deficiency or imperfection of Interconnection Service, except as provided in this Tariff. The provisions set forth in the Tariff shall be additionally applicable to any Party acting in good faith to implement or comply with its obligations under this GIA, regardless of whether the obligation is preceded by a specific directive.

**18.2 Indemnity.** To the extent permitted by law, an Indemnifying Party shall at all times indemnify, defend and hold the other Parties harmless from Loss.

**18.2.1 Indemnified Party.** If an Indemnified Party is entitled to indemnification under this Article 18 as a result of a claim by a non-Party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 18.2, to assume the defense of such claim, such Indemnified Party may at the expense of the Indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.



**18.2.2** Indemnifying Party. If an Indemnifying Party is obligated to indemnify and hold any Indemnified Party harmless under this Article 18, the amount owing to the Indemnified Party shall be the amount of such Indemnified Party's actual Loss, net of any insurance or other recovery.

**18.2.3** Indemnity Procedures. Promptly after receipt by an Indemnified Party of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Article 18.2 may apply, the Indemnified Party shall notify the Indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Party. If the defendants in any such action include one or more Indemnified Parties and the Indemnifying Party and if the Indemnified Party reasonably concludes that there may be legal defenses available to it and/or other Indemnified Parties which are different from or additional to those available to the Indemnifying Party, the Indemnified Party shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Party or Indemnified Parties having such differing or additional legal defenses.

The Indemnified Party shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the Indemnifying Party

(i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the Indemnified Party and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Party, or there exists a conflict or adversity of interest between the Indemnified Party and the Indemnifying Party, in such event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Party, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Party, which shall not be reasonably withheld, conditioned or delayed.

**18.3 Consequential Damages.** Other than the Liquidated Damages heretofore described, in no event shall either Party be liable under any provision of this GIA for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided; however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

**18.4 Insurance.** Transmission Owner and Interconnection Customer shall, at their own expense, maintain in force throughout the period of this GIA pursuant to 18.4.9, and until released by the other Party, the following minimum insurance coverages, with insurers authorized to do business or an approved surplus lines carrier in the state where the Point of Interconnection is located:

**18.4.1** Employers' Liability and Workers' Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the state in which the Point of Interconnection is located.

- 18.4.2** Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available and punitive damages to the extent normally available and a cross liability endorsement, with minimum limits of One Million Dollars (\$1,000,000) per occurrence/One Million Dollars (\$1,000,000) aggregate combined single limit for personal injury, bodily injury, including death and property damage.
- 18.4.3** Comprehensive Automobile Liability Insurance, for coverage of owned and non-owned and hired vehicles, trailers or semi-trailers licensed for travel on public roads, with a minimum combined single limit of One Million Dollars (\$1,000,000) each occurrence for bodily injury, including death, and property damage.
- 18.4.4** Excess Public Liability Insurance over and above the Employer's Liability, Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of Twenty Million Dollars (\$20,000,000) per occurrence/Twenty Million Dollars (\$20,000,000) aggregate.
- 18.4.5** The Commercial General Liability Insurance, Comprehensive Automobile Insurance and Excess Public Liability Insurance policies shall name the other Parties, their parents, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation in accordance with the provisions of this GIA

against the Other Party Groups and provide thirty (30) Calendar Days' advance written notice to the Other Party Groups prior to anniversary date of cancellation or any material change in coverage or condition.

- 18.4.6** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. Each Party shall be responsible for its respective deductibles or retentions.
- 18.4.7** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this GIA, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by Transmission Owner and Interconnection Customer.
- 18.4.8** The requirements contained herein as to the types and limits of all insurance to be maintained by Transmission Owner and Interconnection Customer are not intended to and shall not in any manner, limit or qualify the liabilities and obligations assumed by Transmission Owner and Interconnection Customer under this GIA.
- 18.4.9** As of the date set forth in Appendix B, Milestones, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) Calendar Days thereafter, Interconnection

Customer and Transmission Owner shall provide the other Party with certification of all insurance required in this GIA, executed by each insurer or by an authorized representative of each insurer.

**18.4.10** Notwithstanding the foregoing, Transmission Owner or Interconnection Customer may self-insure to meet the minimum insurance requirements of Articles 18.4.1 through 18.4.8, to the extent it maintains a self-insurance program; provided that, Transmission Owner's or Interconnection Customer's senior secured debt is rated at investment grade, or better, by Standard & Poor's and that its self-insurance program meets minimum insurance requirements under Articles 18.4.1 through 18.4.8. For any period of time that a Transmission Owner's or Interconnection Customer's senior secured debt is unrated by Standard & Poor's or is rated at less than investment grade by Standard & Poor's, such Party shall comply with the insurance requirements applicable to it under Articles 18.4.1 through 18.4.9. In the event that Transmission Owner or Interconnection Customer is permitted to self-insure pursuant to this article, it shall notify the other Party that it meets the requirements to self-insure and that its self-insurance program meets the minimum insurance requirements in a manner consistent with that specified in Article 18.4.9.

**18.4.11** Transmission Owner and Interconnection Customer agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this GIA.

## **ARTICLE 19. ASSIGNMENT**

**19.1 Assignment.** This GIA may be assigned by any Party only with the written consent of the other Parties; provided that a Party may assign this GIA without the consent of the other Parties to any Affiliate of the assigning Party with an equal or greater credit rating

and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this GIA; and provided further that Interconnection Customer shall have the right to assign this GIA, without the consent of either Transmission Provider or Transmission Owner, for collateral security purposes to aid in providing financing for the Generating Facility, provided that Interconnection Customer will promptly notify Transmission Provider of any such assignment. Any financing arrangement entered into by Interconnection Customer pursuant to this Article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify Transmission Provider of the date and particulars of any such exercise of assignment right(s), including providing Transmission Provider and Transmission Owner with proof that it meets the requirements of Article 11.5 and 18.4. Any attempted assignment that violates this Article is void and ineffective. Any assignment under this GIA shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

## **ARTICLE 20. SEVERABILITY**

- 20.1 Severability.** If any provision in this GIA is finally determined to be invalid, void or unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or covenant of this GIA; provided that if Interconnection Customer (or any non-Party, but only if such non-Party is not acting at the direction of either Transmission Provider or Transmission Owner) seeks and obtains such a final determination with respect to any provision of the Alternate Option (Article 5.1.2), or the Negotiated Option (Article 5.1.4), then none of these provisions shall thereafter have any force or effect and the Parties' rights and obligations shall be governed solely by the Standard Option (Article 5.1.1).

## ARTICLE 21. COMPARABILITY

- 21.1 Comparability.** The Parties will comply with all applicable comparability and code of conduct laws, rules and regulations including such laws, rules and regulations of Governmental Authorities establishing standards of conduct, as amended from time to time.

## ARTICLE 22. CONFIDENTIALITY

- 22.1 Confidentiality.** Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by a Party to another Party prior to the execution of this GIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential. The Parties shall maintain as confidential any information that is provided and identified by a Party as Critical Energy Infrastructure Information (CEII), as that term is defined in 18 C.F.R. Section 388.113(c). Such confidentiality will be maintained in accordance with this Article 22.

If requested by the receiving Party, the disclosing Party shall provide in writing, the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

- 22.1.1 Term.** During the term of this GIA, and for a period of three (3) years after the

expiration or termination of this GIA, except as otherwise provided in this Article 22 or with regard to CEII, each Party shall hold in confidence and shall not disclose to any person Confidential Information. CEII shall be treated in accordance with Commission policy and regulations.

**22.1.2** Scope. Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a non-Party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of this GIA; or (6) is required, in accordance with Article 22.1.7 of this GIA, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this GIA. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the receiving Party that it no longer is confidential.

**22.1.3** Release of Confidential Information. No Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), subcontractors, employees, agents, consultants, or to non-parties who may be or are considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with this GIA, unless such person has first been



advised of the confidentiality provisions of this Article 22 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article 22.

- 22.1.4** Rights. Each Party retains all rights, title, and interest in the Confidential Information that it discloses to the receiving Party. The disclosure by a Party to the receiving Party of Confidential Information shall not be deemed a waiver by the disclosing Party or any other person or entity of the right to protect the Confidential Information from public disclosure.
- 22.1.5** No Warranties. By providing Confidential Information, no Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, no Party obligates itself to provide any particular information or Confidential Information to another Party nor to enter into any further agreements or proceed with any other relationship or joint venture.
- 22.1.6** Standard of Care. Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to another Party under this GIA or its regulatory requirements.
- 22.1.7** Order of Disclosure. If a court or a Governmental Authority or entity with the right, power, and apparent authority to do so requests or requires any Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the disclosing Party with prompt notice of such request(s) or requirement(s) so that the disclosing Party may seek an appropriate protective

order or waive compliance with the terms of this GIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

**22.1.8** Termination of Agreement. Upon termination of this GIA for any reason, each Party shall, within ten (10) Calendar Days of receipt of a written request from another Party, use Reasonable Efforts to destroy, erase, or delete (with such destruction, erasure, and deletion certified in writing to the requesting Party) or return to the requesting Party, without retaining copies thereof, any and all written or electronic Confidential Information received from the requesting Party, except that each Party may keep one copy for archival purposes, provided that the obligation to treat it as Confidential Information in accordance with this Article 22 shall survive such termination.

**22.1.9** Remedies. The Parties agree that monetary damages would be inadequate to compensate a Party for another Party's Breach of its obligations under this Article 22. Each Party accordingly agrees that the disclosing Party shall be entitled to equitable relief, by way of injunction or otherwise, if the receiving Party Breaches or threatens to Breach its obligations under this Article 22, which equitable relief shall be granted without bond or proof of damages, and the Breaching Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Article 22, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any

nature or kind resulting from or arising in connection with this Article 22.

**22.1.10** Disclosure to FERC, its Staff or a State. Notwithstanding anything in this Article 22 to the contrary, and pursuant to 18 CFR § 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from a Party that is otherwise required to be maintained in confidence pursuant to this GIA, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 CFR § 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Parties to this GIA prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Parties to this GIA when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time any of the Parties may respond before such information would be made public, pursuant to 18 CFR § 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

**22.1.11** Subject to the exception in Article 22.1.10, any information that a disclosing Party claims is competitively sensitive, commercial or financial information under this GIA shall not be disclosed by the receiving Party to any person not employed or retained by the receiving Party, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the receiving Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the disclosing Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this GIA or as the Regional Transmission Organization or a Local Balancing Authority operator including

disclosing the Confidential Information to a regional or national reliability organization. The Party asserting confidentiality shall notify the receiving Party in writing of the information that Party claims is confidential. Prior to any disclosures of that Party's Confidential Information under this subparagraph, or if any non-Party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the Party who received the Confidential Information from the disclosing Party agrees to promptly notify the disclosing Party in writing and agrees to assert confidentiality and cooperate with the disclosing Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

## **ARTICLE 23. ENVIRONMENTAL RELEASES**

- 23.1** Each Party shall notify the other Parties, first orally and then in writing, of the release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect another Party. The notifying Party shall: (i) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than twenty-four hours after such Party becomes aware of the occurrence; and (ii) promptly furnish to the other Parties copies of any publicly available reports filed with any Governmental Authorities addressing such events.

## **ARTICLE 24. INFORMATION REQUIREMENTS**

- 24.1 Information Acquisition.** Transmission Provider, Transmission Owner and Interconnection Customer shall submit specific information regarding the electrical characteristics of their respective facilities to each other as described below and in accordance with Applicable Reliability Standards.

**24.2 Information Submission by Transmission Provider and Transmission Owner** The initial information submission by Transmission Provider to Interconnection Customer, with copy provided to Transmission Owner, shall occur no later than one hundred eighty (180) Calendar Days prior to Trial Operation and shall include Transmission or Distribution System information, as applicable and available, necessary to allow Interconnection Customer to select equipment and meet any system protection and stability requirements, unless otherwise mutually agreed to by the Parties. On a monthly basis, Transmission Owner shall provide Interconnection Customer a status report on the construction and installation of Transmission Owner's Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and Network Upgrades, including, but not limited to, the following information: (1) progress to date; (2) a description of the activities since the last report (3) a description of the action items for the next period; and (4) the delivery status of equipment ordered.

**24.3 Updated Information Submission by Interconnection Customer.** The updated information submission by Interconnection Customer to Transmission Provider, with copy to Transmission Owner, including manufacturer information, shall occur no later than one hundred eighty (180) Calendar Days prior to the Trial Operation. Interconnection Customer shall submit to Transmission Provider and Transmission Owner a completed copy of the Generating Facility data requirements contained in Appendix 1 to the GIP. It shall also include any additional information provided to Transmission Provider for the Interconnection Facilities Study. Information in this submission shall be the most current Generating Facility design or expected performance data. Information submitted for stability models shall be compatible with Transmission Provider standard models. If there is no compatible model, Interconnection Customer will work with a consultant mutually agreed to by Transmission Provider and Interconnection Customer to develop and supply a standard model and associated information.

If the Interconnection Customer's data is materially different from what was originally provided to Transmission Provider pursuant to the Interconnection Study Agreement between Transmission Provider and Interconnection Customer, then Transmission Provider will conduct appropriate studies to determine the impact on the Transmission System based on the actual data submitted pursuant to this Article 24.3. Interconnection Customer shall not begin Trial Operation until such studies are completed.

**24.4 Information Supplementation.** Prior to the Commercial Operation Date, the Parties shall supplement their information submissions described above in this Article 24 with any and all "as-built" Generating Facility information or "as-tested" performance information that differs from the initial submissions or, alternatively, written confirmation that no such differences exist. Interconnection Customer shall conduct tests on the Generating Facility as required by Good Utility Practice, such as an open circuit "step voltage" test on the Generating Facility to verify proper operation of the Generating Facility's automatic voltage regulator.

Unless otherwise agreed, the test conditions shall include: (1) Generating Facility at synchronous speed; (2) automatic voltage regulator on and in voltage control mode; and (3) a five percent (5 %) change in Generating Facility terminal voltage initiated by a change in the voltage regulators reference voltage. Interconnection Customer shall provide validated test recordings showing the responses in Generating Facility terminal and field voltages. In the event that direct recordings of these voltages is impractical, recordings of other voltages or currents that mirror the response of the Generating Facility's terminal or field voltage are acceptable if information necessary to translate these alternate quantities to actual Generating Facility terminal or field voltages is provided. Generating Facility testing shall be conducted and results provided to Transmission Provider and Transmission Owner for each individual generating unit in a station.

Subsequent to the Commercial Operation Date, Interconnection Customer shall provide

Transmission Provider and Transmission Owner any information changes due to equipment replacement, repair, or adjustment. Transmission Owner shall provide Interconnection Customer, with copy to Transmission Provider, any information changes due to equipment replacement, repair or adjustment in the directly connected substation or any adjacent Transmission Owner substation that may affect the Interconnection Customer's Interconnection Facilities equipment ratings, protection or operating requirements. The Parties shall provide such information no later than thirty (30) Calendar Days after the date of the equipment replacement, repair or adjustment.

## **ARTICLE 25. INFORMATION ACCESS AND AUDIT RIGHTS**

- 25.1 Information Access.** Each Party (the “disclosing Party”) shall make available to the other Parties information that is in the possession of the disclosing Party and is necessary in order for the other Parties to: (i) verify the costs incurred by the disclosing Party for which another Party is responsible under this GIA; and (ii) carry out its obligations and responsibilities under this GIA. The Parties shall not use such information for purposes other than those set forth in this Article 25.1 and to enforce their rights under this GIA.
- 25.2 Reporting of Non-Force Majeure Events.** A Party (the “notifying Party”) shall notify the other Parties when the notifying Party becomes aware of its inability to comply with the provisions of this GIA for a reason other than a Force Majeure event. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this Article shall not entitle any Party receiving such notification to allege a cause for anticipatory breach of this GIA.
- 25.3 Audit Rights.** Subject to the requirements of confidentiality under Article 22 of this GIA, each Party shall have the right, during normal business hours, and upon prior

reasonable notice to the other Parties, to audit at its own expense the other Parties' accounts and records pertaining to the Parties' performance or the Parties' satisfaction of obligations under this GIA. Such audit rights shall include audits of the other Parties' costs, calculation of invoiced amounts, the Transmission Provider's efforts to allocate responsibility for the provision of reactive support to the Transmission or Distribution System, as applicable, the Transmission Provider's efforts to allocate responsibility for interruption or reduction of generation, and each Party's actions in an Emergency Condition. Any audit authorized by this Article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party's performance and satisfaction of obligations under this GIA. Each Party shall keep such accounts and records for a period equivalent to the audit rights periods described in Article 25.4.

## **25.4 Audit Rights Periods.**

### **25.4.1 Audit Rights Period for Construction-Related Accounts and Records.**

Accounts and records related to the design, engineering, procurement, and construction of the Transmission Owner's Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and Network Upgrades shall be subject to audit for a period of twenty-four months following Transmission Owner's issuance of a final invoice in accordance with Article 12.2.

### **25.4.2 Audit Rights Period for All Other Accounts and Records.** Accounts and records related to a Party's performance or satisfaction of all obligations under this GIA other than those described in Article 25.4.1 shall be subject to audit as follows: (i) for an audit relating to cost obligations, the applicable audit rights period shall be twenty-four (24) months after the auditing Party's receipt of an invoice giving rise to such cost obligations; and (ii) for an audit relating to all other obligations, the applicable audit rights period shall be twenty-four (24)



months after the event for which the audit is sought.

- 25.5 Audit Results.** If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the Party or from whom the overpayment or underpayment is owed together with those records from the audit which support such determination.

## **ARTICLE 26. SUBCONTRACTORS**

- 26.1 General.** Nothing in this GIA shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this GIA; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this GIA in providing such services and each Party shall remain primarily liable to the other Parties for the performance of such subcontractor.
- 26.2 Responsibility of Principal.** The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this GIA. The hiring Party shall be fully responsible to the other Parties for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall Transmission Provider or Transmission Owner be liable for the actions or inactions of Interconnection Customer or its subcontractors with respect to obligations of Interconnection Customer under Article 5 of this GIA. Any applicable obligation imposed by this GIA upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.
- 26.3 No Limitation by Insurance.** The obligations under this Article 26 will not be limited in any way by any limitation of subcontractor's insurance.

## **ARTICLE 27. DISPUTES**

**27.1 Submission.** In the event any Party has a dispute, or asserts a claim, that arises out of or in connection with this GIA or its performance, such Party (the “disputing Party”) shall provide the other Parties with written notice of the dispute or claim (“Notice of Dispute”). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the non-disputing Parties. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the non-disputing Parties’ receipt of the Notice of Dispute, such claim or dispute shall be submitted for resolution in accordance with the dispute resolution procedures of the Tariff.

## **ARTICLE 28. REPRESENTATIONS, WARRANTIES AND COVENANTS**

**28.1 General.** Each Party makes the following representations, warranties and covenants:

**28.1.1 Good Standing.** Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Generating Facility, Interconnection Facilities and Network Upgrades owned by such Party, as applicable, are located; and that it has the corporate power and authority to own its properties, to carry on its business as now being conducted and to enter into this GIA and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this GIA.

**28.1.2 Authority.** Such Party has the right, power and authority to enter into this GIA, to become a Party hereto and to perform its obligations hereunder. This GIA is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar

laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

**28.1.3** No Conflict. The execution, delivery and performance of this GIA does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

**28.1.4** Consent and Approval. Such Party has sought or obtained, or, in accordance with this GIA will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this GIA, and it will provide to any Governmental Authority notice of any actions under this GIA that are required by Applicable Laws and Regulations.

## **ARTICLE 29. {RESERVED}**

## **ARTICLE 30. MISCELLANEOUS**

**30.1 Binding Effect.** This GIA and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

**30.1.1 Reversion.** If offered pursuant to an Agency Agreement under which this GIA is executed by Transmission Provider as agent for the relevant Transmission Owner, in the event that the relevant Agency Agreement terminates, any HVDC Service offered by Transmission Provider under this GIA shall revert to the relevant Transmission Owner and Transmission Provider shall be released from all obligations and responsibilities under this GIA.

**30.2 Conflicts.** In the event of a conflict between the body of this GIA and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this GIA shall prevail and be deemed the final intent of the Parties.

**30.3 Rules of Interpretation.** This GIA, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this GIA, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this GIA), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any Applicable Laws and Regulations means such Applicable Laws and Regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article of this GIA or such Appendix to this GIA, or such Section to the GIP or such Appendix to the GIP, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words of similar import shall be deemed references to this GIA as a whole and not to any particular Article or other provision hereof or thereof; (7) "including" (and with correlative meaning "include") means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, "from" means "from and including", "to" means "to but excluding" and "through" means "through and including."

**30.4 Entire Agreement.** This GIA, including all Appendices and attachments hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral

or written, between the Parties with respect to the subject matter of this GIA. There are no other agreements, representations, warranties, or covenants, which constitute any part of the consideration for, or any condition to, any Party's compliance with its obligations under this GIA.

**30.5 No Third Party Beneficiaries.** This GIA is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

**30.6 Waiver.** The failure of a Party to this GIA to insist, on any occasion, upon strict performance of any provision of this GIA will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Any waiver at any time by any Party of its rights with respect to this GIA shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this GIA. Termination or Default of this GIA for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain Interconnection Service from Transmission Provider. Any waiver of this GIA shall, if requested, be provided in writing.

**30.7 Headings.** The descriptive headings of the various Articles of this GIA have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this GIA.

**30.8 Multiple Counterparts.** This GIA may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

**30.9 Amendment.** The Parties may by mutual agreement amend this GIA by a written

instrument duly executed by all of the Parties.

**30.10 Modification by the Parties.** The Parties may by mutual agreement amend the Appendices to this GIA by a written instrument duly executed by all of the Parties. Such amendment shall become effective and a part of this GIA upon satisfaction of all Applicable Laws and Regulations.

**30.11 Reservation of Rights.** Transmission Provider shall have the right to make a unilateral filing with FERC to modify this GIA with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under Section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Transmission Owner and Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this GIA pursuant to Section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this GIA shall limit the rights of the Parties or of FERC under Sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

**30.12 No Partnership.** This GIA shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership among or between the Parties or to impose any partnership obligation or partnership liability upon any Party. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Parties.

**IN WITNESS WHEREOF**, the Parties have executed this GIA in multiple originals;  
each of which shall constitute and be an original GIA among the Parties.

Transmission Provider

**Midcontinent Independent System Operator, Inc.**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Transmission Owner

**[Insert name of Transmission Owner]**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Interconnection Customer

**[Insert name of Interconnection Customer]**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Project No. \_\_\_\_\_

## APPENDICES TO GIA

**Appendix A** Interconnection Facilities, System Protection Facilities, Distribution Upgrades, Generator Upgrades and Network Upgrades

**Appendix B** Milestones

**Appendix B-1** Pre-Certification Generation Test Notification Form

**Appendix C** Interconnection Details

**Appendix D** Security Arrangements Details

**Appendix E** Commercial Operation Date

**Appendix F** Addresses for Delivery of Notices and Billings

**Appendix G** Interconnection Requirements for Inverter-Based Resource Plants

**Appendix H** Interconnection Requirements for Provisional GIA

**Appendix I** Requirements Applicable to Surplus Interconnection Service



## Appendix A to GIA

### Interconnection Facilities, System Protection Facilities, Distribution Upgrades, Generator Upgrades and Network Upgrades

#### 1. Description of Generating Facility

Interconnection Customer shall install a [ ] MVA facility, rated at [ ] MW gross and [ ] MW net, with all studies performed at or below these outputs. The Generating Facility is composed of [ ] units in a [*insert description – combined cycle, single coal-fired, wind farm, etc.*] rated at [ ] each. Describe the interconnection service provided under this agreement [*insert description – Network Resource or Energy Resource*] and level of service [ ] MW.

Interconnection Customer shall install a switchyard with the appropriate protection equipment coordinated per Appendix C to this GIA. The Switchyard shall contain [ ] generator step-up transformer(s), [ ] circuit breakers connected in [ ] fashion [*describe or point to a single-line diagram*].

#### 2. Interconnection Facilities

(a) **Point of Interconnection.** The Point of Interconnection shall be at the point where \_\_\_\_\_. See Exhibit A1\_\_\_\_ Drawing No. \_\_\_\_\_ dated \_\_\_\_\_, which drawing is attached hereto and made a part hereof. If not located at the Point of Interconnection, the metering point(s) shall be located at \_\_\_\_\_.

(b) **Interconnection Facilities (including metering equipment) to be constructed by Interconnection Customer.** Interconnection Customer shall construct \_\_\_\_\_ and are detailed in Exhibit A1\_\_\_\_. These

facilities are estimated to cost \$\_\_\_\_\_ and are detailed in Exhibit A1\_\_\_\_\_.

- (c) **Transmission Owner Interconnection Facilities (including metering equipment) to be constructed by Transmission Owner.** Transmission Owner shall construct \_\_\_\_\_ and are detailed in Exhibit A1\_\_\_\_\_. These facilities are estimated to cost \$\_\_\_\_\_ and are detailed in Exhibit A1\_\_\_\_\_.

### 3. Network Upgrades

- (a) **Stand-Alone Network Upgrades to be installed by \_\_\_\_\_.** Transmission Owner shall install \_\_\_\_\_, detailed in Exhibit A2\_\_\_\_\_. These facilities are estimated to cost \$\_\_\_\_\_ and are detailed in Exhibit A2\_\_\_\_\_.
- (b) **Network Upgrades to be installed by Transmission Owner.** Transmission Owner shall install \_\_\_\_\_, detailed in Exhibit A2\_\_\_\_\_. These facilities are estimated to cost \$\_\_\_\_\_ and are detailed in Exhibit A2\_\_\_\_\_.
- (c) **Shared Network Upgrade(s) to be funded by Interconnection Customer.** Alternatively, where Transmission Provider determines that Interconnection Customer benefits from one or more prior Network Upgrades or Common Use Upgrades, those Network Upgrades and/or Common Use Upgrades will be classified by Transmission Provider as Shared Network Upgrades under this GIA, and Interconnection Customer is responsible for costs as detailed below. Interconnection Customer may later be eligible for refund and/or contribution if subsequent Interconnection Customers are identified as also benefitting from the Shared Network Upgrade(s). Interconnection Customer shall fund those Shared Network Upgrade(s) detailed in Exhibit A5. Interconnection Customer's cost share of the Share Network Upgrade(s) is estimated at \$\_\_\_\_\_, as

detailed in Exhibit A5. Interconnection Customer's cost share of the Shared Network Upgrade(s) may be reduced if later interconnection projects are determined to also benefit from the Shared Network Upgrade(s). Interconnection Customer's cost share of the Shared Network Upgrade(s) may also increase from this estimate where other projects are determined to adversely impact Interconnection Customer's cost share of the Shared Network Upgrade(s).i) If a Shared Network Upgrade is not yet in service as of the date of execution of this GIA, if applicable, Interconnection Customer shall post an Irrevocable Letter of Credit in the amount of its estimated proportionate share of the estimated cost of that Shared Network Upgrade in accordance with Article 11.6.4 as of the date set forth in Appendix B to this GIA.

#### 4. System Protection Facilities

- (a) **System Protection Facilities not listed in Section 2 or 3 to be constructed by Interconnection Customer.** Interconnection Customer shall construct \_\_\_\_\_ detailed in Exhibit A3\_\_\_\_. These facilities are estimated to cost \$ \_\_\_\_\_ and are detailed in Exhibit A3\_\_\_\_.
- (b) **System Protection Facilities not listed in 2 or 3 to be constructed by Transmission Owner.** Transmission Owner shall construct \_\_\_\_\_ and detailed in Exhibit A3\_\_\_\_. These facilities are estimated to cost \$ \_\_\_\_\_ and are detailed in Exhibit A3\_\_\_\_.

#### 5. Distribution Upgrades

- (a) **Distribution Upgrades to be constructed by (Transmission/Distribution) Owner (select one for final version).** (Transmission/Distribution) Owner shall construct \_\_\_\_\_ detailed in Exhibit A4\_\_\_\_. These facilities are estimated to cost \$ \_\_\_\_\_ and are detailed in Exhibit A4\_\_\_\_.

6. Contingency List [include higher queued Interconnection Requests with GIAs prior to this GIA and contingency Network Upgrades, System Protection Facilities or Distribution Upgrades of higher queued Interconnection Request with GIAs prior to this GIA pursuant to Article 11.3.1 that are subject to restudy in accordance with Article 11.3.2]

(a) Contingency List of MTEP Appendix B projects and contingent actions should Appendix B projects not proceed by listed date to Appendix A.

7. Affected System Upgrades List (include higher queued Interconnection Requests with GIAs prior to this GIA)

8. JTIQ Upgrades

[To be included in GIA if Interconnection Customer is responsible for a portion of a portfolio of JTIQ Upgrades] Interconnection Customer is subject to the JTIQ Generator Charge in accordance with Attachment JJJ of the MISO Tariff and Appendix I of this GIA.

JTIQ Security amount:

- A. Constructing MISO Transmission Owner

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

- B. SPP:

## Appendix B to GIA

### Milestones

1. **Selected Option pursuant to Article 5.1:** Interconnection Customer selects the [ ] Option as described in Article 5.1.[ ], 5.1.[ ] and 5.1.[ ] shall not apply to this GIA.
2. **Milestones:** The description and date entries listed in the following tables are provided solely for the convenience of the Parties in establishing their applicable Milestones consistent with the provisions of this GIA and the GIP.

#### A. Interconnection Customer Milestones

|  |  |
|--|--|
|  |  |
|  |  |

| <u>No.</u> | <u>Description</u>                                       | <u>Date</u>                                                                                                                                                                                                                                                                                                         |
|------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1a.        | Provide initial payment to Transmission Owner (GIA 11.5) | Within the later of a) 45 Calendar Days of the execution of the GIA by all Parties, or b) 45 Calendar Days of acceptance by FERC if the GIA is filed unexecuted and the payment is being protested by Interconnection Customer, or c) 45 Calendar Days of the filing if the GIA is filed unexecuted and the initial |

|                     |                                                                                                                                                                                                                                               |                                                                                                                                            |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
|                     |                                                                                                                                                                                                                                               | payment is not being protested by Interconnection Customer.                                                                                |
| 1b.                 | Provide security, <i>i.e.</i> , a guarantee, surety bond, letter of credit or other reasonably acceptable form of security to Transmission Owner (GIA 11.6).                                                                                  | 45 Calendar Days prior to design, procurement and construction.                                                                            |
| 1c.                 | Enter into a Facilities Service Agreement (“FSA”) as may be applicable, with Transmission Owner for the Network Upgrades associated with this GIA.                                                                                            | Within 90 Calendar Days of the Effective Date of the GIA and prior to in-service date of Network Upgrades associated with this GIA.        |
| 1d.                 | Enter into amendment of this GIA, if required, for Interconnection Requests that did not elect optional negotiation period adjustment for Interconnection Facilities Study pursuant to GIA Section 11.3.1.                                    | Within 90 days of the posting of the final Interconnection Facilities report.                                                              |
| 1e.                 | Enter into SPP JTIQ Service Agreement (if included in JTIQ Participation Group) pursuant to GIP Section 11.1.                                                                                                                                 | Within 15 Calendar Days after tender.                                                                                                      |
| <a href="#">1f.</a> | <a href="#">Enter into any agreement required by an Affected System for the study, construction, or funding of a network upgrade to mitigate impacts (for Interconnection Requests processed through ERAS) pursuant to GIP Section 3.5.2.</a> | <a href="#">Within 15 Calendar Days after tender.</a>                                                                                      |
| 2.                  | Provide Certificate of Insurance (GIA 18.4.9).                                                                                                                                                                                                | The earlier of the construction work commencement date or the milestone date; thereafter, within 90 Calendar Days of end of fiscal year or |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                    |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | insurance renewal date.                                                                            |
| 3. | <p>i) Provide to Transmission Provider evidence of continued Site Control after execution of this GIA (GIP 7.2.2).</p> <p>ii) Provide evidence of one or more of the following milestones being achieved: (1) execution of contract for (a) fuel supply or transport; (b) cooling water supply; (c) engineering procurement of major equipment or construction; (d) execution of a contract for the sale of electric energy or capacity from the Generating Facility, or a statement signed by an officer or authorized agent of Interconnection Customer attesting that the Generating Facility is included in an applicable state resource adequacy plan; or other information that Transmission Provider deems to be reasonable evidence that the Generating Facility will qualify as a designated network resource; or (2) documentation of application for state or local air, water, land, or federal nuclear or hydroelectric permits and that the application is proceeding per regulations (GIP 11.3).</p> | <p>When requested by Transmission Provider.</p> <p>Within 180 Calendar Days of Effective Date.</p> |
| 4. | Provide security in the amount of \$_____ to Transmission Owner to commence design, equipment procurement and construction for Interconnection Facilities (GIA 5.5 and 5.6).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | As may be agreed to by the Parties.                                                                |
| 5. | Invoice Transmission Owner for the estimated amount                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | As may be agreed to by the                                                                         |

|      |                                                                                                                                                                                                                                        |                                                                                                                                         |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
|      | to be expended by the Interconnection Customer to construct any Stand Alone Network Upgrades for which the Interconnection Customer has exercised its Option to Build if the Transmission Owner has elected to Self Fund (GIA 5.2.13). | Parties, but in no event later than 45 Calendar Days prior to the date the Interconnection Customer must make any construction payment. |
| 6.   | Pre-construction meeting.                                                                                                                                                                                                              | As may be agreed to by the Parties.                                                                                                     |
| 7.   | Provide initial design and specifications for Interconnection Customer's Interconnection Facilities to Transmission Owner and Transmission Provider for comment (GIA 5.10.1).                                                          | 180 Calendar Days prior to initial synchronization date.                                                                                |
| 8.   | Provide final design and specifications for Interconnection Customer's Interconnection Facilities to Transmission Owner and Transmission Provider for comment (GIA 5.10.1).                                                            | 90 Calendar Days prior to initial synchronization date.                                                                                 |
| 9.   | Deliver to Transmission Owner and Transmission Provider "as-built" drawings, information and documents regarding Interconnection Customer's Interconnection Facilities (GIA 5.10.3).                                                   | Within 120 Calendar Days of Commercial Operation Date.                                                                                  |
| 10.  | Provide Transmission Owner final cost invoices to construct Stand Alone Network Upgrades for which the Interconnection Customer has exercised its Option to Build if the Transmission Owner has elected to Self Fund (GIA 5.2.13).     | Within six (6) months of completion.                                                                                                    |
| 10a. | Transfer ownership of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to Transmission Owner if Interconnection Customer has exercised the Option to Build (GIA                                    | As agreed to by the Parties but in no event later than the earlier of energization or three days prior to the Initial                   |



|      |                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                      |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|      | 5.2.9).                                                                                                                                                                                                                                                                                                                                                                                                                        | Synchronization Date.                                                                |
| 10b. | Refund overpayment, if any, of estimated costs to construct any Stand Alone Network Upgrades for which the Interconnection Customer has exercised its Option to Build if the Transmission Owner has elected to Self Fund (GIA 5.2.13).                                                                                                                                                                                         | Within 30 Calendar Days after submitting invoice for final costs under Milestone 10. |
| 11.  | Notify Transmission Provider and Transmission Owner in writing of Local Balancing Authority where Generating Facility is located (GIA 9.2).                                                                                                                                                                                                                                                                                    | Three months prior to Initial Synchronization Date.                                  |
| 12.  | Pre-energization meeting.                                                                                                                                                                                                                                                                                                                                                                                                      | As may be agreed to by the Parties.                                                  |
| 13.  | Initial Synchronization Date.                                                                                                                                                                                                                                                                                                                                                                                                  | As agreed to by the Parties.                                                         |
| 14.  | Commercial Operation Date.                                                                                                                                                                                                                                                                                                                                                                                                     | As agreed to by the Parties.                                                         |
| 15.  | Interconnection Customer shall provide the Parties with notice on the status of the Generating Facility, including COD, under Article 15 of this GIA and shall also send such notice by email to <a href="mailto:ResourceIntegration@misoenergy.org">ResourceIntegration@misoenergy.org</a> . Notification shall include Interconnection Customer's name, and as applicable Market Participant(s) name(s), and project number. | 6 months prior to Initial Synchronization Date.                                      |
| 16.  | Interconnection Customer shall provide notice to the Parties of a test plan in advance of conducting tests for the Generating Facility. The notice shall be in the form below and should be provided under Article 15 of this GIA, and a copy of such notice should be emailed to <a href="mailto:ResourceIntegration@misoenergy.org">ResourceIntegration@misoenergy.org</a> .                                                 | 5 Business Days prior to testing.                                                    |

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                             |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 17. | In the event the Interconnection Customer makes any modifications to the design of the site layouts or interconnection facility routes after execution of this GIA, Interconnection Customer shall notify the Parties of such changes immediately upon identifying the need for such changes. After providing such notification, the Interconnection Customer shall provide to Transmission Provider evidence of continued Site Control for land sufficient to accommodate the changes in site layouts and/or interconnection facility routes (GIP 7.2.2). | 90 Calendar Days after Interconnection Customer provides notice to Parties. |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|

**B. Transmission Owner Milestones**

|  |  |
|--|--|
|  |  |
|  |  |

| <b><u>No.</u></b> | <b><u>Description</u></b>                                                                                               | <b><u>Date</u></b>                                                                                                                                     |
|-------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0.                | Transmission Owner to enter Network Upgrade information into Transmission Provider's MTEP database and model on demand. | 10 Business Days after Effective Date.                                                                                                                 |
| 1.                | Provide Certificate of Insurance (GIA 18.4.9).                                                                          | The earlier of the construction work commencement date or the milestone date; within 90 Calendar Days of end of fiscal year or insurance renewal date. |
| 2.                | <ul style="list-style-type: none"> <li>Commence design of Interconnection Facilities</li> </ul>                         | As agreed to by the Parties                                                                                                                            |

|     |                                                                                                                                                                                                     |                                                                                                                                                                                  |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | <p>(GIA 5.5 et seq.).</p> <ul style="list-style-type: none"> <li>Commence equipment procurement.</li> </ul>                                                                                         | <p>(after completion of Interconnection Facilities Study, receipt of written authorization from Interconnection Customer and Interconnection Customer's deposit of security.</p> |
| 3.  | Commence construction of Interconnection Facilities (GIA 5.6 et seq.).                                                                                                                              | As agreed to by the Parties (after receiving approval of Governmental Authority, receipt of written authorization and security from Interconnection Customer).                   |
| 4.  | Comment on Interconnection Customer's final design and specifications.                                                                                                                              | Within 30 Calendar Days of Interconnection Customer's submission of final design and specifications.                                                                             |
| 5.  | Deliver to Interconnection Customer and Transmission Provider "as-built" drawings, information and documents regarding Transmission Owner's Interconnection Facilities (GIA 5.11).                  | Within 120 Calendar Days of Commercial Operation Date.                                                                                                                           |
| 6.  | Provide payment for invoiced estimated costs to construct for which the Interconnection Customer has exercised its Option to Build if the Transmission Owner has elected to Self Fund (GIA 5.2.13). | Within 30 Calendar Days of receipt of Interconnection Customer's invoice for estimated costs.                                                                                    |
| 6a. | Provide payment for invoiced final cost to construct Stand Alone Network Upgrades for which the                                                                                                     | Within 30 Calendar Days of receipt of Interconnection                                                                                                                            |

|    |                                                                                                                             |                                                                                             |
|----|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
|    | Interconnection Customer has exercised its Option to Build if the Transmission Owner has elected to Self Fund (GIA 5.2.13). | Customer's invoice for final costs.                                                         |
| 7. | Provide Interconnection Customer final cost invoices (GIA 12.2 <i>et seq.</i> ).                                            | Within (6) six months of completion.                                                        |
| 8. | Refund overpayment of estimated costs (GIA 12.2).                                                                           | 90 Calendar Days prior to initial synchronization date.<br>Refunds within 30 Calendar Days. |
| 9. | In-Service Date/Backfeed Date.                                                                                              | As agreed to by the Parties.                                                                |

**C. Affected System Owner Milestones**

| Task | Date Due |
|------|----------|
|      |          |

**Appendix B-1 to GIA**  
**Pre-Certification Generation Test Notification Form**

The following form would need to be submitted to MISO Real Time Operations at least five (5) Business Days prior to the first date of testing.

Project Number:

Project Name:

Point of Interconnection:

Dispatcher Contact Information:

| <b>Date</b> | <b>Start Time<br/>(in EST)</b> | <b>End Time<br/>(in EST)</b> | <b>Expected MW<br/>Output</b> | <b>Expected MVAR<br/>Output (Only needed if<br/>beyond normal power<br/>factor)</b> |
|-------------|--------------------------------|------------------------------|-------------------------------|-------------------------------------------------------------------------------------|
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |

## **Appendix C to GIA**

### **Interconnection Details**

This Appendix C is a part of this GIA among Interconnection Customer, Transmission Owner and Transmission Provider.

1. Transmission Owner shall provide the following “as-built” drawings, information and documents regarding the Transmission Owner’s Interconnection Facilities pursuant to Article 5.11 of this GIA.
2. The unique requirements of each generation interconnection will dictate the establishment of mutually agreeable Interconnection and/or Operating Guidelines that further define the requirements of this GIA. The Interconnection and/or Operating Guidelines applicable to this GIA consist of the following information. Additional detail may be provided through attachment to this Appendix C or through electronic means via the web address specified.
  - (a) System Protection Facilities;
  - (b) Communication requirements;
  - (c) Metering requirements;
  - (d) Grounding requirements;
  - (e) Transmission Line and Substation Connection configurations;
  - (f) Unit Stability requirements;
  - (g) Equipment ratings;
  - (h) Short Circuit requirements;
  - (i) Synchronizing requirements;
  - (j) Generation and Operation Control requirements;
  - (k) Data provisions;
  - (l) Energization inspection and testing requirements; and
  - (m) Control equipment, if any.
3. Information required pursuant to Section 8.4 for Variable Energy Resource Generating Facilities: \_\_\_\_\_.

## **Appendix D to GIA**

### **Security Arrangements Details**

Infrastructure security of Transmission or Distribution System equipment and operations, as applicable, and control hardware and software is essential to ensure day-to-day Transmission and Distribution System reliability and operational security. The Commission will expect all Transmission Providers, market participants, and Interconnection Customers interconnected to the Transmission or Distribution System, as applicable, to comply with the recommendations provided by Governmental Authorities regarding Critical Energy Infrastructure Information (“CEII”) as that term is defined in 18 C.F.R. Section 388.113(c) and best practice recommendations from the electric reliability authority. All public utilities will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

**Appendix E to GIA**  
**Commercial Operation Date**

This Appendix E is a part of this GIA between Transmission Provider, Transmission Owner and Interconnection Customer.

**[Date]**

Midcontinent Independent System Operator, Inc.  
Attn: Director, Transmission Access Planning  
720 City Center Drive  
Carmel, IN 46032

Re: \_\_\_\_\_ Generating Facility

Dear \_\_\_\_\_:

On **[Date]** **[Interconnection Customer]** has completed Trial Operation of Unit No. \_\_\_\_.  
This letter confirms that **[Interconnection Customer]** commenced commercial operation of Unit No. \_\_\_\_ at the Generating Facility, effective as of **[Date plus one Calendar Day]**.

Thank you.

**[Signature]**

**[Interconnection Customer Representative]**

cc: Transmission Owner



**Appendix F to GIA**  
**Addresses for Delivery of Notices and Billings**

**Notices:**

Transmission Provider:

MISO  
Attn: Director, Transmission Access Planning  
720 City Center Drive  
Carmel, IN 46032

Transmission Owner:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

**Billings and Payments:**

Transmission Provider:

MISO  
Attn: Director, Transmission Access Planning  
720 City Center Drive  
Carmel, IN 46032

Transmission Owner:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

**Alternative Forms of Delivery of Notices (telephone, facsimile or email):**

Transmission Provider:

Phone: (317) 249-5700

Email: misotap@misoenergy.org or

MISOTransmissionAccessPlanning@misoenergy.org

Transmission Owner:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

## Appendix G to GIA

### Interconnection Requirements for Inverter-Based Resource Plants

Appendix G sets forth requirements and provisions specific to inverter-based resource (IBR) plants. Transmission Owner Local Planning Criteria for IBR performance may differ from Appendix G requirements. In such cases, Transmission Owner Local Planning Criteria shall supersede the Appendix G requirements and be documented in Appendix C of this GIA<sup>1</sup>. All other requirements of this GIA also apply to IBR plant interconnections. *IBR plants* shall meet both Applicable Reliability Standards and Appendix G requirements. Battery energy storage systems required to furnish grid-forming controls shall be exempt from specific IEEE 2800 requirements as outlined in the BPM for Generator Interconnection. Italicized terms indicate IEEE 2800-2022 defined terms<sup>2</sup>. IEEE 2800-2022's definitions will govern these italicized terms unless otherwise defined herein.

#### A. General

The *IBR plant* shall adhere to IEEE 2800-2022 Clause 4 requirements, except for subclauses 4.1 (introduction), 4.5 (operational measurement and communication capability), 4.6 (control capability requirements), 4.8 (isolation devices), 4.9 (inadvertent energization of TS), 4.11 (interconnection integrity), and 4.12 (integration with TS grounding).

Within the adopted IEEE 2800-2022 Subclauses, the following requirements shall be incorporated as Transmission Provider and Transmission Owner<sup>3</sup> specification options noted in IEEE 2800-2022.

- Subclause 4.2.1: The *reference point of applicability* (RPA) shall be at the *point of measurement* (POM) bus with the exception of requirements specified in

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<sup>1</sup> IEEE 2800-2022 points to "weak grid" issues requiring exceptions to default values and ranges of available settings for various types of performance. IEEE 2800-2022 Annex C.2 contains discussion on characterizing weak grid areas.

<sup>2</sup> "IEEE Standard for Interconnection and Interoperability of Inverter-Based Resources (IBRs) Interconnecting with Associated Transmission Electric Power Systems," in IEEE Std 2800-2022, vol., no., pp.1-180, 22 April 2022, doi: 10.1109/IEEEESTD.2022.9762253.

<sup>3</sup> For the purpose of this GIA, the IEEE 2800 term of *TS operator* is synonymous with Transmission Owner and the IEEE 2800 term of *TS owner* is synonymous with Transmission Planner or Transmission Owner, as applicable.

Clauses 7.2.2.3.4 and 7.2.2.3.5 of the standard to have the RPA at the *point of connection* (POC).

- Subclause 4.3: The Transmission Owner shall specify the nominal voltage and frequency at the RPA in Appendix C of this GIA.
- Subclause 4.10.2: The *enter service* criteria shall use the default values for *applicable voltages* and *applicable frequency* specified in the table below unless otherwise specified in Appendix C of this GIA<sup>4</sup>.

| Enter service criteria                      | Default setting |
|---------------------------------------------|-----------------|
| <i>Applicable voltage</i> , minimum value   | 0.9 p.u.        |
| <i>Applicable voltage</i> , maximum value   | 1.05 p.u.       |
| <i>Applicable frequency</i> , minimum value | 58.8 Hz         |
| <i>Applicable frequency</i> , maximum value | 60.12 Hz.       |

- Subclause 4.10.3: The performance during *enter service* shall use the default values specified below unless otherwise specified in Appendix C of this GIA.
  - The minimum intentional delay performance, as defined in Subclause 4.10.3, b), shall be 0 seconds.
  - The duration of the *enter service* period, as defined in Subclause 4.10.3, c), shall be 300 seconds.

## **B. Response to Abnormal Conditions**

The *IBR plant* shall adhere to IEEE 2800-2022 Clause 7 requirements, except for subclauses 7.2.1 (voltage protection) and 7.3.1 (mandatory frequency tripping). Where Applicable Reliability Standards require more stringent ride-through requirements compared to IEEE 2800-2022 Clause 7 requirements, those standards shall take precedence<sup>5</sup>.

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<sup>4</sup> MISO default values may be modified within the IEEE 2800 range of allowable settings by Transmission Owner Local Planning Criteria.

<sup>5</sup> More stringent ride-through requirements include, but are not limited to, expanded voltage and frequency

Within the adopted IEEE 2800-2022 Subclauses, the following requirements shall be incorporated as the Transmission Provider and Transmission Owner decision points<sup>6</sup> noted in IEEE 2800-2022.

- Subclause 7.2.2.1: The Transmission Owner shall specify the nominal voltage for use by this clause. Nominal voltages may include nominal transmission system voltages that are different from standard ANSI C84.1-2016 voltages.
- Subclause 7.2.2.2: If the *IBR plant* cannot deliver both active and reactive power due to its current limit (or apparent power limit), when the *applicable voltage* is below 95%, then preference shall be given to reactive power while minimizing any reductions in active power.
- Subclause 7.2.2.3: The *IBR plant* shall give preference to reactive power unless otherwise specified in Appendix C of this GIA. In addition, the *IBR plant* shall minimize reductions in active power while carrying out the reactive current priority mode response.
- Subclause 7.2.2.3.4: The Interconnection Customer shall submit the *IBR plant* controls default relationship between the magnitude of incremental positive and negative sequence reactive currents. The Transmission Provider and Transmission Owner, through this agreement, may specify a required *IBR plant* response relationship between the incremental positive and negative sequence reactive currents.

### C. Reactive Power

The *IBR plant* shall adhere to IEEE 2800-2022 Clause 5 requirements.

Within the adopted IEEE 2800-2022 Subclauses, the following requirements shall be incorporated as the Transmission Provider and Transmission Owner decision points noted in IEEE 2800-2022.

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conditions or extended cumulative times under which *IBR plants* must ride-through.

<sup>6</sup> Decision points refer to language in the IEEE 2800-2022 standard that leaves default values, application of requirements, and other details open for the *TS Owner* or *TS Operator* to define.

- Subclause 5.1: The *IBR plant* shall have the reactive power capabilities outlined in this clause. Consistent with section 9.6.1 of this GIA, an *IBR plant* shall maintain a power factor within the range of 0.95 leading to 0.95 lagging, unless Transmission Provider has established different requirements that apply to all Generating Facilities in the Local Balancing Authority on a comparable basis, measured at the high side of the generator substation.
- Subclause 5.2.2: The voltage control dynamic performance requirements in Table 5 shall apply when the system short-circuit strength at the RPA is equal to or above the minimum short-circuit strength identified by the Transmission Provider or Transmission Owner.
- Subclause 5.2.2: The *reaction time*, as defined in Subclause 5.2.2 Table 5, shall be 250 milliseconds or less.
- Subclause 5.2.2: The maximum *step response time*, as defined in Subclause 5.2.2 Table 5, shall be 30 seconds.
- Subclause 5.2.3: The power factor control mode shall appropriately operate at all active power levels from the Inverter Based Resource Continuous Rating (“ICR”) down to, but not including, zero.

**D. Primary Frequency Response**

The *IBR plant* shall adhere to IEEE 2800-2022 Clause 6 requirements, except for Subclause 6.2 (fast frequency response).

Within the adopted IEEE 2800-2022 Subclauses, the following requirements shall be incorporated as the Transmission Provider and Transmission Owner decision points noted in IEEE 2800-2022.

- Subclause 6.1.1: The use of primary frequency response capabilities shall be required for all *IBR plants*.
- Subclause 6.1.1: Frequency droop shall be based on the difference between nameplate capacity and zero output such that the slopes of the droop curves are always constant.

- Subclause 6.1.2: The *settling band* default value in Table 8 shall be based on the maximum of 2.5% of change or 0.5% of nameplate capacity.

The exceptions to primary frequency response requirements provided to electric storage resources in Article 9.6.4.4 of this GIA shall still apply.

*TABLE 1. SUMMARY OF ADOPTION TREATMENT OF IEEE 2800-2022 SUBCLAUSES*

| IEEE 2800-2022 Subclause                                    | Required by<br>Appendix G<br>for DPP-2022<br>and later | Required by<br>Appendix G<br>for DPP-2023<br>and later | Exception |
|-------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|-----------|
| 4.1 Introduction                                            |                                                        |                                                        | <b>X</b>  |
| 4.2 Reference Point of Applicability                        | <b>X</b>                                               |                                                        |           |
| 4.3 Applicable Voltages and Frequencies                     | <b>X</b>                                               |                                                        |           |
| 4.4 Measurement Accuracy                                    | <b>X</b>                                               |                                                        |           |
| 4.5 Operational Measurement and<br>Communication Capability |                                                        |                                                        | <b>X</b>  |
| 4.6 Control Capability                                      |                                                        |                                                        | <b>X</b>  |
| 4.7 Prioritization of IBR Responses                         | <b>X</b>                                               |                                                        |           |
| 4.8 Isolation Devices                                       |                                                        |                                                        | <b>X</b>  |
| 4.9 Inadvertent Energization of TS                          |                                                        |                                                        | <b>X</b>  |
| 4.10 Enter Service                                          | <b>X</b>                                               |                                                        |           |
| 4.11 Interconnection Integrity                              |                                                        |                                                        | <b>X</b>  |
| 4.12 Integration with TS grounding                          |                                                        |                                                        | <b>X</b>  |
| 5.1 Reactive Power Capability                               |                                                        | <b>X</b>                                               |           |
| 5.2 Voltage and Reactive Power Modes                        |                                                        | <b>X</b>                                               |           |
| 6.1 Primary Frequency Response                              |                                                        | <b>X</b>                                               |           |
| 6.2 Fast Frequency Response                                 |                                                        |                                                        | <b>X</b>  |
| 7.1 Introduction                                            | <b>X</b>                                               |                                                        |           |

|                                                             |   |
|-------------------------------------------------------------|---|
| 7.2.1 Voltage protection                                    | X |
| 7.2.2.1 Voltage disturbance ride-through:<br>General        | X |
| 7.2.2.2 Voltage disturbances within continuous<br>operation | X |
| 7.2.2.3 Low- and high-voltage ride-through                  | X |
| 7.2.2.4 Consecutive voltage deviations ride-<br>through     | X |
| 7.2.2.5 Dynamic voltage support                             | X |
| 7.2.2.6 Restore output after voltage ride-through           | X |
| 7.2.3 Transient overvoltage                                 | X |
| 7.3.1 Mandatory frequency tripping                          | X |
| 7.3.2 Frequency disturbance ride-through                    | X |
| 7.4 Return to service                                       | X |

**E. Supervisory Control and Data Acquisition (SCADA) Capability**

The *IBR plant* shall provide SCADA capability to transmit data and receive instructions from Transmission Provider to protect system reliability. Transmission Provider and Interconnection Customer shall determine what SCADA information is essential for the proposed *IBR plant*, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.

**F. Disturbance Monitoring and Reporting Requirements**

*IBR plants* with generating capacities of more than 20 MW must monitor and record data for all frequency ride-through events, transient low-voltage disturbances that initiated reactive current injection, reactive current injection or momentary cessation for transient high-voltage disturbances, and inverter trips. Dynamic Disturbance Recording (“DDR”) data must be recorded continuously. The data may be recorded and stored in a central plant control system.



The following data must be recorded:

Plant Level

- (1) Plant three-phase voltage, current and power factor
- (2) Status of ancillary reactive devices
- (3) Status of all plant circuit breakers
- (4) Status of plant controller
- (5) Plant control set points
- (6) Status of main plant transformer no load taps
- (7) Status of main plant transformer tap changer (if applicable)
- (8) Protective relay trips (relay target data)

Inverter Level Data

- (1) Frequency, current, and voltage during frequency ride-through events
- (2) Voltage and current during momentary cessation for transient high-voltage events  
(when used)
- (3) Voltage and current during reactive current injection for transient low or high-voltage events
- (4) Inverter alarm and fault codes
- (5) DC current
- (6) DC voltage

DDR Data – Plant Level

- (1) One phase-to-neutral or positive sequence voltage on high-side of the main power transformer(s)
- (2) Positive sequence current or phase current for the same phase as (1)
- (3) Real and reactive power flows expressed on a three-phase basis corresponding to each main power transformer(s) where current measurements are required
- (4) Frequency of any one of the voltages in (1)

The data must be time synchronized to a one millisecond level of resolution. All data except DDR data must be sampled at least every 10 milliseconds. DDR data must have an input sampling rate of at least 960 samples per second and an output recording rate of electrical

quantities of at least 60 times per second.

The *IBR plant* shall store this data for a minimum of 60 calendar days. The *IBR plant*, upon request from MISO or the transmission owner, shall make this data available within 10 calendar days of the request.

Phasor measurement unit (“PMU”) capabilities shall be used to facilitate the DDR data.

#### **G. Applicability**

*IBR plants* that are, or have been, interconnected to the network at the effective date of the Appendix G abnormal voltage ride-through standard are exempt from meeting the Appendix G abnormal voltage ride-through standard for the remaining life of the existing generation equipment. Except for *IBR plants* actively undergoing a Generating Facility Replacement at the effective date of this GIA that have equipment on order where the OEM has documented performance that differs from what is required in this GIA, all individual IBR units that are replaced are required to meet the Appendix G performance requirements.

The IEEE 2800-2022 requirements cited in Section A (IEEE 2800-2022 Clause 4) and Section B (IEEE 2800-2022 Clause 7, except Subclause 7.2.2.4) of Appendix G shall apply to *IBR plants* in the DPP-2022-Cycle and beyond. For the DPP-2022-Cycle, Interconnection Customers may request exceptions confined to these sections only if specific limitations or uncertainties of equipment or plant capabilities prevent implementation of these requirements. GIAs signed or amended with inverter changes on or after January 1, 2025, are not eligible for requirement exceptions. Further, the process for establishing exceptions for these requirements shall not apply beyond the DPP-2022-Cycle.

The IEEE 2800-2022 requirements cited in Section B (IEEE 2800-2022 Subclause 7.2.2.4), Section C (IEEE 2800-2022 Clause 5), and Section D (IEEE 2800.2022 Clause 6) of Appendix G shall apply to *IBR plants* in the DPP-2023-Cycle and beyond. For the DPP-2023-Cycle, Generating Facilities Replacements, and Surplus Interconnections, Interconnection Customers may request exceptions confined to these sections only if specific limitations or uncertainties of equipment or plant capabilities prevent implementation of these requirements. GIAs signed or amended with inverter changes on or after January 1, 2026, are not eligible for requirement exceptions. Further, the process for establishing exceptions for these requirements

shall not apply beyond the DPP-2023-Cycle.

Interconnection Customers requesting exceptions shall submit documentation to the Transmission Provider outlining the specific IEEE 2800-2022 subclauses pertinent to the request along with information from the manufacturer regarding the nature of the issue conforming to or assessing conformance with requirements herein. The Transmission Provider will, in good faith, accept Original Equipment Manufacturer (OEM)-documented requirement exceptions and document these exceptions in Appendix C of this GIA.

If the performance or capability exception can be mitigated through equipment firmware upgrades still under development, the Interconnection Customer shall use commercially reasonable efforts to implement the firmware upgrade within sixty (60) calendar days of commercial availability of such firmware.

The DDR and PMU requirements in the Section F, Disturbance Monitoring and Reporting Requirements of Appendix G shall apply to *IBR plants* in the DPP-2023-Cycle and beyond.

## **Appendix H to GIA**

### **Interconnection Requirements for Provisional GIA**

#### **Provisional Agreement**

This GIA is being provided in accordance with Section 11.5 of the Transmission Provider's GIP, which provides among other things, that an Interconnection Customer may request that Transmission Provider provide Interconnection Customer with a Provisional Generator Interconnection Agreement that limits the transfer of energy by Interconnection Customer commensurate with that allowed for Energy Resource Interconnection Service. Interconnection Customer requested Transmission Provider to provide a Provisional Generator Interconnection Agreement for limited operation at the discretion of Transmission Provider based upon the results of available studies (by Interconnection Customer and by Transmission Provider).

A Provisional Interconnection Study, the results of which are posted on the confidential portion of the Transmission Provider's internet website, was performed by Transmission Provider in order to confirm the facilities that are required for provisional Interconnection Service and to require them to be in place prior to commencement of service under the GIA.

Interconnection Customer represents that the Interconnection Customer facilities (including Network Upgrades, Interconnection Facilities, Distribution Upgrades, System Protection Upgrades and/or Generator Upgrades) that are necessary to commence provisional Interconnection Service and meet the requirements of NERC, or any applicable regional entity for the interconnection of a new generator are in place prior to the commencement of generation from the Generating Facility and will remain in place during the term of the service. The requisite Interconnection Studies were performed for the Generating Facility. Interconnection Customer shall meet any additional requirements (including reactive power requirements) pursuant to the results of applicable future Interconnection System Impact Studies. Until such time as the applicable Interconnection Studies and any identified facilities are completed, the output of the Generating Facility will operate within the output limit prescribed in a future, if

applicable, operating guide.

The maximum permissible output of the Generating Facility under Appendix A will be updated by Transmission Provider on a quarterly basis, determined in accordance with Section 11.5 of the GIP, by finding the transfer limit of energy commensurate with the analysis for Energy Resource Interconnection Service (“ERIS”). This study shall be performed assuming the system topology represented by the base cases used to calculate Available Flowgate Capability, as described in Attachment C of the Tariff, with dispatch and optimization algorithms posted on the MISO internet site and operation above those limits will be deemed as unauthorized use of the Transmission System and subject to provisions in the Tariff surrounding that use.

#### **Use of interim operating guide**

Implementation of interim operating guide, if applicable, will constitute an interim solution that will permit Interconnection Customer to operate the Generating Facility under conditional Interconnection Service until planned Network Upgrades are constructed. Any interim operating guide will be subject to the approval of Transmission Owner and Transmission Provider. Minimum requirements for an interim operating guide are as indicated below.

- \* Transmission Operator will have control of breaker(s) dedicated to the Generating Facility and will be able to trip the Interconnection Customer’s Generating Facility
- \* Protection schemes must be tested and operative
- \* Interconnection Customer will provide continuous communication capability with the Generator Operator
- \* Interconnection Customer and the owner of the Existing Generating Facility will enter into an operating agreement or similar agreement which designates, among other things, the responsibilities and authorities of each of the parties and shall be subject to the acceptance of Transmission Provider and Transmission Owner.
- \* A termination date consistent with completion of construction of Network Upgrades will be included as part of all operating guides accepted by Transmission Owner and Transmission

Provider.

Interconnection Customer assumes all risks and liabilities with respect to changes, which may impact the Generator Interconnection Agreement including, but not limited to, change in output limits and responsibilities for future Network Upgrade and cost responsibilities that have not yet been identified on the direct connect Transmission System as well as all affected Transmission, Distribution or Generation System(s) including non-Transmission Provider Systems. Such upgrades will be determined pursuant to the Tariff and Policies in effect at the time of the Interconnection Studies.

**Appendix I to GIA**  
**Requirements Applicable to Surplus Interconnection Service**

Where this GIA provides for Surplus Interconnection Service, Interconnection Customer acknowledges, agrees to, and will be required to operate under the following conditions:

- 1) The combined Real-Time Offers, including Energy and Operating Reserves, of the Generating Facility and the Existing Generating Facility with which Interconnection Customer has an executed Energy Displacement Agreement must be less than or equal to Interconnection Service limit (MW, MVAR, MVA output) provided in Exhibit I-1 (Monitoring and Consent Agreement) (hereinafter, “Interconnection Service limit”).

In the event that the sum of the simultaneous energy output of the Surplus Interconnection Service Generating Facility and the Existing Generating Facility exceeds such Interconnection Service limit, MISO reserves the right to curtail and/or disconnect the Generating Facility immediately.

In the event that the sum of the emergency and/or economic maximum offer limits of the Generating Facility and the Existing Generating Facility exceeds the Interconnection Service limit, MISO reserves the right to curtail and/or disconnect the Generating Facility immediately.

- 2) The total MW, MVAR, MVA output at the Point of Interconnection resulting from the combined output of the Generating Facility with Surplus Interconnection Service and the Existing Generating Facility with which Interconnection Customer has an executed Energy Displacement Agreement shall not at any time exceed the Interconnection Service limit.
- 3) The Existing Generating Facility with which Interconnection Customer has an executed Energy Displacement Agreement is not relieved of any applicable requirements under the RAR of the Tariff.

- 4) The Interconnection Customer shall submit to the Transmission Provider a report by the seventh Calendar Day of each month showing the prior month's output, by 15 minute increment, the combined real-time offers and cleared energy injection. The Existing Generating Facility and the Interconnection Customer shall cooperate consistent with other provisions in the Tariff to the extent necessary to ensure accuracy of the report. Transmission Provider shall provide a template for this report.

**Exhibit I-1 (Completed Monitoring and Consent Agreement - Appendix 11 of the GIP)**

**Exhibit I-2 (Completed Energy Displacement Agreement - Appendix 12 of the GIP)**



Tab B – Clean Tariff Sheets

**ATTACHMENT X**  
**GENERATOR INTERCONNECTION PROCEDURES (GIP)**

**SECTION 1. DEFINITIONS.**

**10 kW Inverter Process** shall mean the procedure for evaluating an Interconnection Request for a certified inverter-based Small Generating Facility no larger than 10 kW that uses the screen set forth in Section 14.

**Adverse System Impact** shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

**Affected System** shall mean an electric transmission or distribution system or the electric system associated with an Existing Generating Facility or of a higher queued Generating Facility, which is an electric system other than the Transmission Owner's Transmission System that is affected by the Interconnection Request. An Affected System may or may not be subject to FERC jurisdiction.

**Affected System Operator** shall mean the entity that operates an Affected System.

**Affiliate** shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

**Ancillary Services** shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission System in accordance with Good Utility Practice.

**Applicable Laws and Regulations** shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority having jurisdiction over the Parties, their respective facilities and/or the respective services they provide.

**Applicable Reliability Council** shall mean the Regional Entity of NERC applicable to the Local Balancing Authority of the Transmission System to which the Generating Facility is directly interconnected.

**Applicable Reliability Standards** shall mean Reliability Standards approved by the Federal Energy Regulatory Commission (FERC) under section 215 of the Federal Power Act, as applicable.

**Automatic Withdrawal Penalty** shall mean the penalty assessed by Transmission Provider to an Interconnection Customer that chooses to withdraw or is deemed to have withdrawn its Interconnection Request from Transmission Provider's interconnection queue in certain specified circumstances. The calculation of the Withdrawal Penalty is set forth in Section 7.6.2.1.1 of this GIP.

**Base Case** shall mean the base case power flow, short circuit, and stability databases used for the Interconnection Studies by Transmission Provider or Interconnection Customer.

**Base Case Data** shall mean base case power flow, short circuit and stability databases, including all underlying assumptions, and contingency lists. Such databases and lists, hereinafter referred to as Base Cases, shall include all (1) generation projects and (2) transmission projects, including merchant transmission projects that are proposed for the Transmission System for which a transmission expansion plan has been submitted and approved by the MISO Board.

**Breach** shall mean the failure of a Party to perform or observe any material term or condition of the Generator Interconnection Agreement.

**Breaching Party** shall mean a Party that is in Breach of the Generator Interconnection Agreement.

**Business Day** shall mean Monday through Friday, excluding Federal Holidays.

**Calendar Day** shall mean any day including Saturday, Sunday or a Federal Holiday. In the event that a period specified in this GIP is calculated in Calendar Days ends on a non-business day, such period shall be deemed to conclude on the following business day.

**Commercial Operation** shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

**Commercial Operation Date (COD)** of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed by the Parties pursuant to Appendix E to the Generator Interconnection Agreement.

**Commitment Projection** shall mean a projection of the number of MW expected to commit to the JTIQ Portfolio from ERAS and all DPP study clusters that already have passed DP1 as described in Section 9.4.2.e.ii of Rate Schedule 6 (MISO SPP-JOA).

**Common Use Upgrade** shall mean an Interconnection Facility, Network Upgrade, System Protection Facility, or any other classified addition, alteration, or improvement on the Transmission System or the transmission system of an Affected System, not classified under Attachment FF as a Baseline Reliability Project, Market Efficiency Project, or Multi-Value Project, that is needed for the interconnection of multiple Interconnection Customers' Generating Facilities and which is the shared responsibility of such Interconnection Customers.

**Confidential Information** shall mean any proprietary or commercially or competitively sensitive information, trade secret or information regarding a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, or any other information as specified in Article 22 of the GIA, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise, that is received by another Party.

**Connection Facilities** shall mean the Transmission Owner's Connection Facilities and the MHVDC Connection Customer's Connection Facilities, as defined in the MHCP.

**Contingent Facilities** shall mean those unbuilt Interconnection Facilities and Network Upgrades upon which the Interconnection Request's costs, timing and study findings are dependent, and if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing. Contingent Facilities may include facilities identified in MTEP that if delayed or not built could impact the timing of the Interconnection Request.

**Default** shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Generator Interconnection Agreement.

**Definitive Planning Phase** shall mean the Generator Interconnection Procedures process which leads to a Generator Interconnection Agreement. An Interconnection Customer enters the Definitive Planning Phase pursuant to GIP Section 7.2. The Definitive Planning Phase includes three distinct phases (Definitive Planning Phases I, II, and III) pursuant to Section 7 of the Generator Interconnection Procedures.

**Definitive Planning Phase Queue Position** shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, in the Definitive Planning Phase. The Definitive Planning Phase Queue Position is established based

upon the date Interconnection Customer satisfies all of the requirements of GIP Section 7.2 of the Generator Interconnection Procedures to enter the Definitive Planning Phase. All Interconnection Requests within the same Definitive Planning Phase cycle shall have equal priority (i.e. similarly queued).

**Demonstrated Capability** shall mean the continuous net real power output that the Generating Facility is required to demonstrate in compliance with Applicable Reliability Standards.

**Dispute Resolution** shall mean the procedure for resolution of a dispute between or among the Parties in which they will first attempt to resolve the dispute on an informal basis.

**Distribution System** shall mean the Transmission Owner's facilities and equipment, or the Distribution System of another party that is interconnected with Transmission Owner's Transmission System, if any, connected to the Transmission System, over which facilities Transmission Service or Wholesale Distribution Service under the Tariff is available at the time Interconnection Customer has requested interconnection of a Generating Facility for the purpose of either transmitting electric energy in interstate commerce or selling electric energy at wholesale in interstate commerce and which are used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among Local Balancing Authorities and other entities owning distribution facilities interconnected to the Transmission System.

**Distribution Upgrades** shall mean the additions, modifications, and upgrades to the Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the delivery service necessary to affect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

**Effective Date** shall mean the date on which the Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by the Commission, or if filed unexecuted, upon the date specified by the Commission.

**Emergency Condition** shall mean a condition or situation: (1) that in the reasonable judgment of the Party making the claim is imminently likely to endanger, or is contributing to the endangerment of, life, property, or public health and safety; or (2) that, in the case of either Transmission Provider or Transmission Owner, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission System, Transmission Owner's Interconnection Facilities or the electric systems of others to which the Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and blackstart shall be considered Emergency Conditions; provided that Interconnection Customer is not obligated by the Generator Interconnection Agreement to possess blackstart capability. Any condition or situation that results from lack of sufficient generating capacity to meet load requirements or that results solely from economic conditions shall not constitute an Emergency Condition, unless one of the enumerated conditions or situations identified in this definition also exists.

**Energy Displacement Agreement** shall mean an agreement between an Interconnection Customer with an Existing Generating Facility on the Transmission Provider's Transmission System and an Interconnection Customer with a proposed Generating Facility seeking to interconnect with Surplus Interconnection Service. The Energy Displacement Agreement specifies the term of operation, the Generating Facility Interconnection Service limit, and the mode of operation for energy production (common or singular operation).

**Energy Resource Interconnection Service (ER Interconnection Service)** shall mean an Interconnection Service that allows Interconnection Customer to connect its Generating Facility to the Transmission System or Distribution System, as applicable, to be eligible to

deliver the Generating Facility's electric output using the existing firm or non-firm capacity of the Transmission System on an as available basis. Energy Resource Interconnection Service does not convey transmission service.

**Engineering & Procurement (E&P) Agreement** shall mean an agreement that authorizes Transmission Owner to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

**Environmental Law** shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

**Existing Generating Facility** shall mean a Generating Facility that is either under construction or is in service, and has an unsuspended interconnection agreement with its host transmission provider.

**Expanded Scope Analysis** shall mean the analysis described in Section 9.4.2.d.iv.a of Rate Schedule 6 (MISO-SPP JOA).

**Expedited Resource Addition Study (ERAS)** shall mean the temporary procedure for expediting interconnection projects identified for claimed resource adequacy and/or reliability needs.

**Expedited Resource Addition Study (ERAS) Quarterly Study Period** shall mean the period of time in which ERAS Interconnection Requests are submitted to the Transmission Provider and compiled for study. There are four study periods in a year with the following start and end dates:

Quarter 1: The first Business Day of March through the last Business Day of May;

Quarter 2: The first Business Day of June through the last Business Day of August;

Quarter 3: The first Business Day of September through the last Business Day of



November;

Quarter 4: The first Business Day of December through the last Business Day of February.

**Expedited Generator Interconnection Agreement (EGIA)** shall mean the interconnection agreement for the Expedited Resource Addition Study established between the Transmission Provider and/or the Transmission Owner and the Interconnection Customer as set forth in Section 3.9 of this Attachment X. This agreement shall take the form of the Transmission Provider's *pro forma* Generator Interconnection Agreement modified for the Expedited Resource Addition Study. Unless otherwise provided in the GIP, all requirements applicable to the *pro forma* Generator Interconnection Agreement shall apply to the Expedited Generator Interconnection Agreement.

**Facilities Construction Agreement (FCA)** shall mean the form of facilities construction agreement, set forth in Appendix 8 to these Generator Interconnection Procedures. The FCA shall be used when an Interconnection Customer causes the need for the construction of Network Upgrades or System Protection Facilities on the transmission system of an Affected System.

**Fast Track Process** shall mean the procedure for evaluating an Interconnection Request for a certified Small Generating Facility no larger than five MW that includes the screen set forth in Section 14, customer options meeting, and optional supplemental review.

**Federal Holiday** shall mean a Federal Reserve Bank holiday for a Party that has its principal place of business in the United States and a Canadian Federal or Provincial banking holiday for a Party that has its principal place of business located in Canada.

**Federal Power Act** shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a *et seq.*

**FERC** shall mean the Federal Energy Regulatory Commission, also known as

Commission, or its successor.

**Final System Impact Study** shall mean the Interconnection System Impact Study performed during Definitive Planning Phase III.

**Force Majeure** shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include an act of negligence or intentional wrongdoing by the Party claiming Force Majeure.

**Generating Facility** shall mean Interconnection Customer's device(s) for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities and shall not include a SATOA as defined in Module A. A Generating Facility consists of one or more generating unit(s) and/or storage device(s) which usually can operate independently and be brought online or taken offline individually.

**Generating Facility Capacity** shall mean the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple energy production devices.

**Generating Facility Modification** shall mean modification to an Existing Generating Facility, including comparable replacement of only a portion of the equipment at the Existing Generating Facility.

**Generating Facility Replacement** shall mean replacement of one or more generating units and/or storage devices at an Existing Generating Facility with one or more new generating units or storage devices at the same electrical Point of Interconnection as those being

decommissioned and electrically disconnected.

**Generator Interconnection Agreement (GIA)** shall mean the form of interconnection agreement, set forth in Appendix 6 to these Generator Interconnection Procedures.

**Generator Interconnection Procedures (GIP)** shall mean the interconnection procedures set forth herein.

**Generator Upgrades** shall mean the additions, modifications, and upgrades to the electric system of an Existing Generating Facility or of a higher queued Generating Facility at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the Transmission Service necessary to affect Interconnection Customer's wholesale sale of electricity in interstate commerce.

**Good Utility Practice** shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

**Governmental Authority** shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer, Transmission Provider, Transmission Owner, or any Affiliate thereof.

**Group Study(ies)** shall mean the process whereby more than one Interconnection Request is studied together, instead of serially, for the purpose of conducting one or more of the required Interconnection Studies.

**Hazardous Substances** shall mean any chemicals, materials or substances defined as or included in the definition of “hazardous substances,” “hazardous wastes,” “hazardous materials,” “hazardous constituents,” “restricted hazardous materials,” “extremely hazardous substances,” “toxic substances,” “radioactive substances,” “contaminants,” “pollutants,” “toxic pollutants” or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

**HVDC Facilities** shall mean the high voltage direct current transmission facilities, including associated alternating current facilities, if any, that are subject to Section 27A of the Tariff and that are specifically identified in (i) any Agency Agreement pertaining to such facilities between Transmission Provider and Transmission Owner that owns or operates such facilities, or (ii) in any other arrangement that permits or will permit Transmission Provider to provide HVDC Service over such facilities as set forth in Section 27A of the Tariff.

**HVDC Service** shall mean Firm and Non-Firm Point-To-Point Transmission Service provided by Transmission Provider on HVDC Facilities pursuant to Section 27A of the Tariff.

**Initial Synchronization Date** shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

**Injection Rights** shall mean the Transmission Provider’s pre-certification of the Transmission System’s capability to receive capacity and energy from the MHVDC Transmission Line at the requested Point of Connection, and in the specified MW quantity, without degrading the reliability of the Transmission System, as described in Section 16 of the

GIP and Section 3.2.3 of the MHCP.

**In-Service Date (ISD)** shall mean the date upon which Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Owner's Interconnection Facilities to obtain back feed power.

**Interconnection Customer** shall mean any entity, including Transmission Provider, Transmission Owner or any of the Affiliates or subsidiaries of either, that proposes to interconnect its Generating Facility with the Transmission System.

**Interconnection Customer Decision Point I** shall mean the time period beginning when the Interconnection Customer is provided the Preliminary System Impact Study results including cost estimates for upgrades and concludes after fifteen (15) Business Days.

**Interconnection Customer Decision Point II** shall mean the time period beginning when the Interconnection Customer is provided the Revised System Impact Study results including cost estimates for upgrades and the Affected Systems analysis results including cost estimates for upgrades on the Affected System and concludes after fifteen (15) Business Days.

**Interconnection Customer's Interconnection Facilities (ICIF)** shall mean all facilities and equipment, as identified in Appendix A of the Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission System or Distribution System, as applicable. Interconnection Customer's Interconnection Facilities are sole use facilities.

**Interconnection Facilities** shall mean the Transmission Owner's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility

and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission System. Interconnection Facilities shall not include Distribution Upgrades, Generator Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Interconnection Facilities Study(ies)** shall mean a study conducted by Transmission Provider, or its agent, for Interconnection Customer(s) to determine a list of facilities (including Interconnection Customer's Interconnection Facilities, Transmission Owner's Interconnection Facilities, System Protection Facilities, and if such upgrades have been determined, Network Upgrades, Distribution Upgrades, Generator Upgrades, Common Use Upgrades, and upgrades on Affected Systems, as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility(ies) with the Transmission System.

**Interconnection Request** shall mean (1) an Interconnection Customer's request, in the form of Appendix 1 to the Generator Interconnection Procedures, to interconnect a new Generating Facility or a request for the Expedited Resource Addition Study for a new generation capacity, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an Existing Generating Facility that is interconnected with the Transmission System, or to interconnect an Existing Generating Facility that is external to the Transmission System, or to change Energy Resource Interconnection Service to Network Resource Interconnection Service for an Existing Generating Facility; or (2) an MHVDC Connection Customer's request, in the form of Appendix 1 to the Generator Interconnection Procedures, to obtain Injection Rights.

**Interconnection Service** shall mean the service provided by Transmission Provider associated with interconnecting the Generating Facility to the Transmission System, or external host transmission provider if applicable, and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection pursuant to the terms of the Generator Interconnection Agreement or Point of Delivery as set forth in Service Agreement for

Network Resource Interconnection Service for an External Generating Facility and, if applicable, the Tariff.

**Interconnection Study (or Study)** shall mean any of the following studies: the Replacement Impact Study, the Reliability Assessment Study, the Optional Interconnection Study, the Interconnection System Impact Study including evaluations for Surplus Interconnection Service, and the Interconnection Facilities Study, or the Restudy of any of the above, described in the Generator Interconnection Procedures.

**Interconnection System Impact Study** shall mean an engineering study that evaluates the impact of the proposed interconnection on the safety and reliability of Transmission System and, if applicable, an Affected System. The study shall identify and detail the system impacts that would result if the Generating Facility were interconnected without project modifications or system modifications, or to study potential impacts, including but not limited to those identified in the Scoping Meeting as described in the Generator Interconnection Procedures.

**Interconnection Study Agreement** shall mean the forms of agreement contained in Attachment B to Appendix 1 of the Generator Interconnection Procedures for conducting all studies required by the Generator Interconnection Procedures.

**IRS** shall mean the Internal Revenue Service.

**Joint Operating Agreement between the Midcontinent Independent System Operator, Inc. and Southwest Power Pool, Inc. (MISO-SPP JOA)** shall mean Rate Schedule 6 to the MISO Tariff.

**Joint Targeted Interconnection Queue (JTIQ)** shall refer to the study and processes described in Section 9.4.2 of Rate Schedule 6 (MISO-SPP JOA).

**Joint Targeted Interconnection Queue Study (“JTIQ Study”)** shall mean a

transmission planning study conducted jointly by SPP and MISO to facilitate the interconnection of new generator capacity in both Parties' regions.

**JTIQ Commitment Group Member** shall mean any JTIQ Commitment Group Member included in a Commitment Group consistent with Section 9.4 of Rate Schedule 6 (MISO-SPP JOA).

**JTIQ Commitment Group or Commitment Group** shall mean a group of JTIQ Commitment Group Members that have executed a JTIQ Generator Interconnection Agreement within the twelve (12) month period ending April 30<sup>th</sup> of each year. The Commitment Group shall also include JTIQ Commitment Group Members for which a JTIQ Generator Interconnection Agreement has been filed unexecuted by SPP or the Transmission Provider and the Commission has accepted the agreement within the twelve (12) month period ending April 30<sup>th</sup> of each year.

**JTIQ Generator Charge** shall mean the charge to JTIQ Commitment Group Members to recover the JTIQ Commitment Group Member's share of the JTIQ Monthly Revenue Requirement for each of the JTIQ Upgrades in the JTIQ Portfolio in the Transmission Provider's Region.

**JTIQ Participation Group** shall mean the group of Interconnection Requests that shall consist of all interconnection customers included in the JTIQ Screening Groups whose interconnection request meets the distribution factor and impact criteria specified in Section 9.4.2(d)(ii) of Rate Schedule 6 (MISO-SPP JOA).

**JTIQ Portfolio** shall mean a group of JTIQ Upgrades identified pursuant to Section 9.4 of Rate Schedule 6 (MISO-SPP JOA).

**JTIQ Screening Group** shall mean a group of MISO Interconnection Customers and SPP interconnection customers whose Interconnection Requests will be screened for inclusion in



a JTIQ Participation Group. The JTIQ Screening Group shall consist of all interconnection customers who have submitted interconnection requests into a MISO ERAS, SPP ERAS, DPP study cluster, or SPP DISIS study cluster that: (1) has a study commencement or kick off date that is after the date that the Parties' respective Boards of Directors have approved a JTIQ Portfolio; and (2) has not commenced DPP Phase I, a MISO ERAS, the SPP ERAS, or DISIS Phase One studies pursuant to each party's OATT as of the date that the Parties have declared the JTIQ Portfolio fully subscribed.

**JTIQ Service Agreements** shall mean the JTIQ Commitment Agreement attached to the MISO GIA as Appendix 17 and the SPP's *pro forma* agreement(s) that obligate interconnection customers to provide security for and pay the JTIQ Generator Charge for JTIQ Network Upgrades included in the applicable JTIQ Portfolio.

**JTIQ Upgrade** shall mean a Network Upgrade included in a JTIQ portfolio pursuant to Section 9.4 of Rate Schedule 6 (MISO-SPP JOA).

**Local Balancing Authority** shall mean an operational entity or a Joint Registration Organization which is (i) responsible for compliance with the subset of NERC Balancing Authority Reliability Standards defined in the Balancing Authority Agreement for their local area within the MISO Balancing Authority Area, (ii) a Party to Balancing Authority Agreement, excluding MISO, and (iii) provided in the Balancing Authority Agreement.

**Local Resource Zone (LRZ)** shall mean a geographic area within the Transmission Provider Region that is prescribed by the Transmission Provider, based upon the criteria in Section 68A.3, to address congestion that limits Planning Resource deliverability.

**Loss** shall mean any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its

obligations under the Generator Interconnection Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing, by the indemnified party.

**Material Modification** shall mean: (1) modification to an Interconnection Request in the queue that has a material adverse impact on the cost or timing of any other Interconnection Request with a later queue priority date; or a Qualified Change.

**Merchant HVDC Connection Customer (MHVDC Connection Customer)** shall mean any entity that proposes to interconnect an MHVDC Transmission Line with the Transmission System, as set forth in the MHCP.

**Merchant HVDC Connection Procedures (MHCP)** shall mean the connection procedures set forth in Attachment GGG to the Tariff.

**Merchant HVDC Transmission Connection Request (MHVDC Transmission Connection Request)** shall mean an MHVDC Connection Customer's request, in the form of Appendix 1 to the MHCP to interconnect a new MHVDC Transmission Line, increase the capacity of an existing MHVDC Transmission Line, or make a substantial modification to the operating characteristics of an existing MHVDC Transmission Line.

**Merchant HVDC Transmission Connection Agreement (Transmission Connection Agreement or TCA)** shall mean the form of the transmission connection agreement for merchant HVDC transmission facilities set forth in Appendix 2 to the MHCP.

**Merchant HVDC Transmission Line (MHVDC Transmission Line)** shall mean the merchant high voltage direct current transmission line external to the Transmission System that is proposed for connection to the Transmission System, as defined in the MHCP.

**Metering Equipment** shall mean all metering equipment installed or to be installed at the Generating Facility, Interconnection Customer's Interconnection Facilities, and/or

Transmission Owner's Interconnection Facilities pursuant to the Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

**Monitoring and Consent Agreement** shall mean an agreement that defines the terms and conditions applicable to a Generating Facility acquiring Surplus Interconnection Service. The Monitoring and Consent Agreement will list the roles and responsibilities of an Interconnection Customer seeking to interconnect with Surplus Interconnection Service and Transmission Owner to maintain the total output of the Generating Facility inside the parameters delineated in the GIA.

**Multi-Party Facilities Construction Agreement (MPFCA)** shall mean the form of facilities construction agreement, set forth in Appendix 9 to these Generator Interconnection Procedures. The MPFCA shall be used when multiple Interconnection Requests cause the need for the construction of Common Use Upgrades on the Transmission System or the transmission system of an Affected System and share cost responsibility for such Common Use Upgrades.

**NERC** shall mean the North American Electric Reliability Corporation or its successor organization.

**Network Customer** shall have that meaning as provided in the Tariff.

**Network Resource** shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

**Network Resource Interconnection Service (NR Interconnection Service)** shall mean an Interconnection Service that allows Interconnection Customer to integrate its Generating

Facility with the Transmission System in the same manner as for any Generating Facility being designated as a Network Resource. Network Resource Interconnection Service does not convey transmission service. Network Resource Interconnection Service shall include any network resource interconnection service established under an agreement with, or the tariff of, a Transmission Owner prior to integration into MISO, that is determined to be deliverable through the integration deliverability study process.

**Network Upgrades** shall mean the additions, modifications, and upgrades to the Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission System or Distribution System, as applicable, to accommodate the interconnection of the Generating Facility(ies) to the Transmission System. Network Upgrades shall not include any HVDC Facility Upgrades.

**Notice of Dispute** shall mean a written notice of a dispute or claim that arises out of or in connection with the Generator Interconnection Agreement or its performance.

**Optional Interconnection Study** shall mean a sensitivity analysis based on assumptions specified by Interconnection Customer in the Optional Interconnection Study Agreement.

**Optional Interconnection Study Agreement** shall mean the form of agreement contained in Appendix 5 of the Generator Interconnection Procedures for conducting the Optional Interconnection Study.

**Outage Transfer Distribution Factor (OTDF)** Outage Transfer Distribution Factor, as defined by NERC.

**Party or Parties** shall mean Transmission Provider, Transmission Owner, Interconnection Customer, or any combination of the above.

**Permissible Technological Advancement** shall mean advancements to turbines, inverters, plant supervisory controls, excitation systems, or other technological advancements submitted to the Transmission Provider prior to the issuance of a draft Generator Interconnection Agreement for such project provided that such advancements does not: (1) degrade the electrical characteristics of the generating equipment; (2) does not cause any material adverse impact on the Transmission System with regard to short circuit capability limits, steady-state thermal and voltage limits, or dynamic system stability and response; (3) does not increase the installed capacity of the Generating Facility; or (4) change the fuel source of the proposed Generating Facility.

**Point of Change of Ownership (PCO)** shall mean the point, as set forth in Appendix A to the Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Owner's Interconnection Facilities.

**Point of Connection** shall mean the point, as set forth in an MHVDC Transmission Connection Request, where the MHVDC Transmission Line connects to the Transmission System.

**Point of Interconnection (POI)** shall mean the point, as set forth in Appendix A of the GIA, where the Interconnection Facilities connect to the Transmission System.

**Potential MW Total** shall mean a projection of the number of MW that may commit to the JTIQ Portfolio from all ERAS and study clusters to date, including the current study cluster(s).

**Power Transfer Distribution Factor (PTDF)** Power Transfer Distribution Factor, as defined by NERC.

**Preliminary System Impact Study** shall mean the Interconnection System Impact Study performed during Definitive Planning Phase I

**Pre-Queue Phase** shall mean Interconnection Customer outreach and education effort undertaken prior to the submission of the Interconnection Request.

**Provisional Generator Interconnection Agreement** shall mean the interconnection agreement for Provisional Interconnection Service established between the Transmission Provider and/or the Transmission Owner and the Interconnection Customer as set forth in Section 7.9 of this Attachment X. This agreement shall take the form of the Generator Interconnection Agreement modified for provisional purposes. Unless otherwise provided in the GIP, all requirements applicable to the Generator Interconnection Agreement shall apply to the Provisional Generator Interconnection Agreement.

**Provisional Interconnection Service** shall mean Interconnection Service provided by the Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to the Transmission Provider's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Provisional Generator Interconnection Agreement and the Tariff.

**Provisional Interconnection Study** shall mean an engineering study, performed at Interconnection Customer's request, as a condition to entering into a Provisional Generator Interconnection Agreement, that evaluates the impact of the proposed interconnection on the safety and reliability of the Transmission System and, if applicable, any Affected System. The study shall identify and detail the impacts on the Transmission System and, if applicable, an Affected System, from stability, short circuit, and voltage issues that would result if the Generating Facility were interconnected without project modifications or system modifications.

**Qualified Change** shall mean a planned modification to an Existing Generating Facility that is undergoing evaluation for a Generating Facility Modification or Generating Facility Replacement, and has a material adverse impact on the Transmission System with respect to: i)

steady-state thermal or voltage limits, ii) dynamic system stability and response, or iii) short-circuit capability limit; compared to the impacts of the Existing Generating Facility prior to the modification or replacement.

**Queue Position** shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests. The Queue Position is established based upon the date and time of receipt of the valid Interconnection Request by Transmission Provider.

**Reasonable Efforts** shall mean, with respect to an action required to be attempted or taken by a Party under the Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

**Relevant Electric Retail Regulatory Authority (RERRA)** shall mean an entity that has jurisdiction over and establishes prices and/or policies for providers of retail electric service to end-customers, such as the city council for a municipal utility, the governing board of a cooperative utility, the state public utility commission or any such entity.

**Reliability Assessment Study** shall mean an engineering study that evaluates the impact of a proposed Generating Facility Replacement on the reliability of Transmission System during the time period between the date that the Existing Generating Facility ceases commercial operations and the Commercial Operation Date of the Replacement Generating Facility.

**Replacement Generating Facility** shall mean a Generating Facility that replaces an Existing Generating Facility, or a portion thereof, at the same electrical Point of Interconnection pursuant to Section 3.7 of this Attachment X.

**Replacement Impact Study** shall mean an engineering study that evaluates the impact of a proposed Generating Facility Replacement on the reliability of the Transmission System.

**Revised System Impact Study** shall mean the Interconnection System Impact Study performed during Definitive Planning Phase II

**Scoping Meeting** shall mean the meeting between representatives of Interconnection Customer or MHVDC Connection Customer, Transmission Owner, Affected System Operator(s) and Transmission Provider conducted for the purpose of discussing alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection or Points of Connection.

**Shared Network Upgrade** shall mean a Network Upgrade or Common Use Upgrade that is funded by an Interconnection Customer(s), including when the Transmission Owner elects to fund the capital cost of such a Network Upgrade or Common Use Upgrade under Section 11.3 of the GIA, and also benefits other Interconnection Customer(s) or MHVDC Connection Customer(s) that are later identified as beneficiaries.

**Site Control** shall mean a documented right for one or more parcels of land for the purpose of constructing a Generating Facility, Interconnection Customer's Interconnection Facilities, and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), the Transmission Owner's Interconnection Facilities and Network Upgrades at the POI that the Interconnection Customer will develop. Such documented right shall be one of the following: (1) ownership of a site; (2) a leasehold interest in a site; (3) an option to purchase or acquire a leasehold interest in a site; or (4) any other contractual or legal right to possess or occupy a site.

**Small Generating Facility** shall mean a Generating Facility that has an aggregate net Generating Facility Capacity of no more than five MW and meets the requirements of Section 14 and Appendix 3.



**Southwest Power Pool (SPP)** shall refer to the Southwest Power Pool, Inc. the Regional Transmission Organization that is the counterparty to Rate Schedule 6 (MISO-SPP JOA).

**Special Protection System (SPS)** shall mean an automatic protection system or remedial action scheme designed to detect abnormal or predetermined system conditions, and take corrective actions other than and/or in addition to the isolation of faulted components, to maintain system reliability. Such action may include changes in demand (MW and MVar), energy (MWh and Mvarh), or system configuration to maintain system stability, acceptable voltage, or power flows. An SPS does not include: (a) underfrequency or undervoltage load shedding; (b) fault conditions that must be isolated; (c) out-of-step relaying not designed as an integral part of an SPS; or (d) Transmission Control Devices.

**Stand-Alone Network Upgrades** shall mean Network Upgrades, that are not part of an Affected System or a JTIQ Upgrade, that an Interconnection Customer or MHVDC Connection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Transmission Provider, Transmission Owner and Interconnection Customer or MHVDC Connection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Generator Interconnection Agreement or Appendix B of the Transmission Connection Agreement. If the Transmission Provider or Transmission Owner and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Provider or Transmission Owner that disagrees with the Interconnection Customer must provide the Interconnection Customer a written technical explanation outlining why the Transmission Provider or Transmission Owner does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

**Supplemental Affected System Analysis** shall mean the affected systems analysis described in Section 7.3.2.3.1 of this GIP and Section 9.4.2.e.iii.a.i of the Rate Schedule 6 (MISO-SPP JOA) to determine if Supplemental Affected System Upgrades are required for one or more JTIQ Participation Group member(s).

**Supplemental Affected System Upgrade** shall mean a Network Upgrade in addition to those required to address the impact of interconnection requests in the current study cluster as described in Section 9.4.2.e.iii.a.i of Rate Schedule 6 (MISO-SPP-JOA).

**Surplus Interconnection Service** shall mean any Interconnection Service that is derived from the unneeded portion of Interconnection Service established in a GIA or in agreement with, or under the tariff of, a Transmission Owner prior to integration into MISO, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same.

**System Planning and Analysis Phase** shall mean the phase of the Generator Interconnection Procedure process, prior to January 4, 2017, which consisted of an Interconnection System Impact Study for those Interconnection Requests that were studied in this phase.

**System Protection Facilities** shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Transmission System or other delivery systems or other generating systems from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the Transmission System or on other delivery systems or other generating systems to which the Transmission System is directly connected.

**Target MW Value** shall mean the projected new generation interconnection MW enabled by the JTIQ Portfolio. The Target MW Value for each JTIQ Portfolio shall be identified in Section 9.4 and related subsections of Rate Schedule 6.

**Tariff** shall mean the Transmission Provider's Tariff through which open access transmission service and Interconnection Service are offered, as filed with the Commission, and as amended or supplemented from time to time, or any successor tariff.

**Threshold Charge** shall mean the charge calculated using an estimate of plant in service value for the JTIQ Portfolio, excluding amounts funded under the GRIP Program, as described in Section 9.4.2 of Rate Schedule 6 (MISO-SPP JOA).

**Transmission Control Devices** shall mean a generally accepted transmission device that is planned and designed to provide dynamic control of electric system quantities, and are usually employed as solutions to specific system performance issues. Examples of such devices include fast valving, high response exciters, high voltage DC links, active or real power flow control and reactive compensation devices using power electronics (*e.g.*, unified power flow controllers), static var compensators, thyristor controlled series capacitors, braking resistors, and in some cases mechanically switched capacitors and reactors. In general, such systems are not considered to be Special Protection Systems.

**Transmission Owner** shall mean that Transmission Owner as defined in the Tariff, which includes an entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at which Interconnection Customer proposes to interconnect or otherwise integrate the operation of the Generating Facility. Transmission Owner should be read to include any Independent Transmission Company that manages the transmission facilities of Transmission Owner and shall include, as applicable, the owner and/or operator of distribution facilities interconnected to the Transmission System, over which facilities transmission service or Wholesale Distribution Service under the Tariff is available at the time Interconnection Customer requests Interconnection Service and to which Interconnection Customer has requested interconnection of a Generating Facility for the purpose of either transmitting electric energy in interstate commerce or selling electric energy at wholesale in interstate commerce.

**Transmission Provider** shall mean the Midcontinent Independent System Operator, Inc. (“MISO”), the Regional Transmission Organization that controls or operates the transmission facilities of its transmission-owning members used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff.

**Transmission Owner's Interconnection Facilities (TOIF)** shall mean all facilities and equipment owned by Transmission Owner from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment.

Transmission Owner's Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Generator Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Transmission System** shall mean the facilities owned by Transmission Owner and controlled or operated by Transmission Provider or Transmission Owner that are used to provide transmission service (including HVDC Service) or Wholesale Distribution Service under the Tariff.

**Trial Operation** shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

**Variable Energy Resource** shall mean a device for the production of electricity that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator.

**Wholesale Distribution Service** shall have that meaning as provided in the Tariff. Wherever the term "transmission delivery service" is used, Wholesale Distribution Service shall also be implied.

## **SECTION 2. SCOPE AND APPLICATION.**

### **2.1 Application of Generator Interconnection Procedures.**

- a. Sections 2 through 13 of the GIP apply to processing an Interconnection Request pertaining to a Generating Facility. The GIP specifically applies when one of the following is proposed by an Interconnection Customer: (i) a new Generating Facility at a new Point of Interconnection that does not meet the criteria set forth in Sections 2.1 (b) or (c), (ii) additional generation at an existing Point of Interconnection, (iii) an increase in the capacity of an Existing Generating Facility, (iv) a Generating Facility Modification that may constitute a Material Modification to the operating characteristics of an Existing Generating Facility, or (v) a Replacement Generating Facility. The evaluation in subpart (iv) will be performed expeditiously depending on the specific information regarding any proposed Generating Facility Modification and the existence of an Emergency Condition.
- b. Section 14 of the GIP applies to a request to interconnect a certified Small Generating Facility meeting the certification criteria set forth in Appendix 3.
- c. A request to interconnect a certified inverter-based Small Generating Facility no larger than 10 kW shall be evaluated under the Appendix 4 – 10 kW Inverter Process.
- d. A request to interconnect to HVDC Facilities subject to Section 27A of the Tariff will be incorporated into the queue as described in Sections 2 through 13 of the GIP. Modifications to the process necessitated by the physics of a connection to HVDC Facilities are found in Section 15 of the GIP, and will apply to those requests to interconnect to HVDC Facilities.
- e. Network Resource Interconnection Service is available to Existing Generating

Facilities connected to facilities external to the Transmission System, including any Existing Generating Facilities connected to any MHVDC Transmission Line. Such a request for Network Resource Interconnection Service shall be memorialized with a Service Agreement as found in Appendix 13 of the GIP.

- f. Sections 1 through 7, Section 10, Section 13 and Section 16 of the GIP apply to processing an Interconnection Request pertaining to Injection Rights for an MHVDC Transmission Line. Any such request for Injection Rights will be incorporated into the queue as described in Sections 2 through 7 of the GIP. Procedures for obtaining Injection Rights and the conversion of those rights to external Network Resource Interconnection Service are set forth in Section 16 of the GIP. All references to MHVDC Connection Customer(s) in these GIP shall be understood to refer to MHVDC Connection Customer(s) seeking Injection Rights.
- g. A request for Replacement Generating Facility shall be evaluated pursuant to Section 3.7 of the GIP.
- h. A request for Generating Facility Modification for an Existing Generating Facility must be submitted to and coordinated with the Transmission Provider pursuant to the provisions set forth in the Generator Interconnection Business Practices Manual to allow the Transmission Provider to determine whether the proposed modification would result in a substantive modification to the operating characteristics of such Existing Generating Facility.
- i. An Interconnection Request for a new Generating Facility to be studied through the Expedited Resource Addition Study process shall be evaluated pursuant to Section 3.9.2.

## **2.2 Comparability.**

Transmission Provider shall receive, process and analyze all Interconnection Requests in

a timely manner as set forth in the GIP. Transmission Provider will use the same Reasonable Efforts in processing and analyzing Interconnection Requests from all Interconnection Customers regardless of Generating Facility ownership and from all MHVDC Connection Customers regardless of MHVDC Transmission Line ownership.

### **2.3 Base Case Data.**

Transmission Provider shall maintain base power flow, short circuit and stability databases, including all underlying assumptions, and contingency list on a password-protected website, subject to confidentiality provisions in GIP Section 13.1. In addition, Transmission Provider shall maintain network models and underlying assumptions on such password-protected website. Such network models and underlying assumptions should reasonably represent those used during the most recent interconnection study and be representative of current system conditions. A link to the information is provided on Transmission Provider's OASIS site. Interconnection Customers and password-protected website users must sign a confidentiality agreement before the release of commercially sensitive information or Critical Energy Infrastructure Information in the Base Case data. Such databases and lists shall include all (i) generation projects and (ii) transmission projects, including merchant transmission projects that are proposed for the Transmission System for which a transmission expansion plan has been submitted and approved by the MISO Board.

### **2.4 No Applicability to Transmission Service.**

Nothing in the GIP shall constitute a request for transmission service or confer upon an Interconnection Customer or MHVDC Connection Customer any right to receive transmission service or Wholesale Distribution Service under the Tariff.

## **SECTION 3. INTERCONNECTION REQUESTS.**

### **3.1 General.**

An Interconnection Customer or MHVDC Connection Customer shall submit to

Transmission Provider an Interconnection Request in the form of Appendix 1 to the GIP and the deposit along with the other items listed in Section 3.3.1 of these GIP in the manner specified by the Generator Interconnection Business Practices Manual (BPM-015). Transmission Provider shall apply the deposit towards the cost of any Interconnection Study. Interconnection Customer or MHVDC Connection Customer shall submit a separate Interconnection Request for each site and may submit multiple Interconnection Requests for a single site. Interconnection Customer or MHVDC Connection Customer must submit a deposit with each Interconnection Request even when more than one request is submitted for a single site. An Interconnection Request to evaluate one site at two different voltage levels shall be treated as two Points of Interconnection; provided, however, that an Interconnection Request for Injection Rights shall only evaluate one voltage level at each Point of Connection.

Transmission Provider shall have a process in place to consider requests for Interconnection Service below the Generating Facility Capacity. These requests for Interconnection Service shall be studied at the level of Interconnection Service requested for purposes of Interconnection Facilities and Network Upgrades, and associated costs, but may be subject to other studies at the full Generating Facility Capacity to ensure safety and reliability of the system, with the study costs borne by the Interconnection Customer. If after the additional studies are complete, Transmission Provider determines that additional Network Upgrades are necessary, then Transmission Provider must: (1) specify which additional Network Upgrade costs are based on which studies; and (2) provide a detailed explanation of why the additional Network Upgrades are necessary. Any Interconnection Facility and/or Network Upgrade costs required for safety and reliability also will be borne by the Interconnection Customer. Interconnection Customers may be subject to additional control technologies as well as testing and validation of those technologies consistent with Article 6 of the GIA. The necessary control technologies and protection systems shall be established in Appendix C of the executed, or requested to be filed unexecuted, GIA.



### **3.2 Identification of Types of Services.**

At the time the Interconnection Request is submitted, Interconnection Customer must request NR Interconnection Service, ER Interconnection Service or Surplus Interconnection Service, as described; provided, however, any Interconnection Customer requesting NR Interconnection Service may also request that it be concurrently studied as an ER Interconnection Service, up to the expiration of Interconnection Customer Decision Point II. Interconnection Customer may then elect to proceed with NR Interconnection Service or to proceed under a lower level of NR Interconnection Service to the extent that only certain upgrades will be completed. A description of the modeling details used when studying a project as ER Interconnection Service or NR Interconnection Service can be found in Section 6 of the Generator Interconnection Business Practices Manual (BPM-015). MHVDC Connection Customer may only request Injection Rights pursuant to Section 16 of the GIP and shall not be eligible to receive any Interconnection Services specified in the GIP.

#### **3.2.1 Energy Resource Interconnection Service (ER Interconnection Service).**

**3.2.1.1 The Product.** ER Interconnection Service allows Interconnection Customer to connect the Generating Facility to the Transmission System or Distribution System, as applicable, and be eligible to deliver the Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis and may be granted on a conditional basis. ER Interconnection Service does not in and of itself convey any right to deliver electricity to any specific customer or Point of Delivery.

**3.2.1.2 The Study.** The study consists of short circuit/fault duty, steady state (thermal and voltage) and stability analyses. The short circuit/fault duty analysis would identify the Interconnection Facilities required and the Network Upgrades necessary to address short circuit issues associated

with the Interconnection Facilities. The stability and steady state studies would identify necessary upgrades to allow full output of the proposed Generating Facility and would also identify the maximum allowed output, at the time the study is performed, of the interconnecting Generating Facility without requiring additional Network Upgrades.

### **3.2.2 Network Resource Interconnection Service (NR Interconnection Service).**

**3.2.2.1 The Product.** Transmission Provider must conduct the necessary studies and Transmission Owner shall cause the construction of the Network Upgrades, System Protection Facilities, Distribution Upgrades or Generator Upgrades, subject to the approval of Governmental Authorities, needed to integrate the Generating Facility in the same manner as for any Generating Facility being designated as a Network Resource. NR Interconnection Service allows the Generating Facility to be designated as a Network Resource, up to the Generating Facility's full output on the same basis as existing Network Resources that are interconnected to the Transmission or Distribution System as applicable, and to be studied as a Network Resource on the assumption that such a designation will occur. NR Interconnection Service may be granted on a conditional basis pursuant to the terms of Article 4.1.2.3 of the GIA. A Generating Facility requesting NR Interconnection Service shall be deemed to request ER Interconnection Service of an equivalent amount to the extent that the Generating Facility does not already have ER Interconnection Service in order to allow Interconnection Customer to connect the Generating Facility to the Transmission System or Distribution System, as applicable, and be eligible to deliver the Generating Facility's output. The total NR Interconnection Service shall not exceed the total ER Interconnection for a Generating Facility. Interconnection Customer with an in-service Generating Facility or with an executed GIA, having ER Interconnection

Service or equivalent interconnection service can request NR Interconnection Service by making an Interconnection Request for obtaining only NR Interconnection Service.

**3.2.2.2 The Study.** The Interconnection Study for NR Interconnection Service shall assure that the Generating Facility meets the requirements for NR Interconnection Service and will qualify the Generating Facility as a Network Resource under Module B and the RAR of the Transmission Provider's Tariff. As a general matter, the Generating Facility's interconnection is studied with the Transmission System at both off-peak and peak loads, under a variety of severely stressed conditions, to determine whether, with the Generating Facility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load on the Transmission System or Distribution System, as applicable, consistent with Applicable Reliability Standards. This approach assumes that some portion of existing Network Resources is displaced by the output of the Generating Facility. NR Interconnection Service does not convey any right to deliver electricity to any specific customer or Point of Delivery.

### **3.2.3 Surplus Interconnection Service.**

**3.2.3.1 The Product.** Surplus Interconnection Service is restricted Interconnection Service that allows an Interconnection Customer to increase the gross generating capability at the same Point of Interconnection of an Existing Generating Facility without increasing the total amount of Interconnection Service at the Point of Interconnection. The total combined generating output at the Point of Interconnection for Both the original and surplus Interconnection Customer is limited to and shall not exceed the total amount of Interconnection Service of an Existing

Generating Facility. Surplus Interconnection Service does not convey any right to deliver electricity to any specific customer or Point of Delivery. If the Existing Generating Facility has only ERIS, any Surplus Interconnection Service associated with that Existing Generating Facility at the same Point of Interconnection shall be ERIS. If the Existing Generating Facility has NRIS, any Surplus Interconnection Service associated with that Existing Generating Facility at the same Point of Interconnection could be either ERIS or NRIS.

**3.2.3.2 The Study.** The Interconnection Study for Surplus Interconnection Service consists of reactive power, short circuit/fault duty, and stability analyses. Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied. If the Transmission Provider is unable to verify that the Existing Generating Facility was previously studied for the granted level of Interconnection Service as provided in Section 3.3.1.1(3) of this GIP, the Transmission Provider may perform steady state analyses to demonstrate reliable operation of the Surplus Interconnection Service in accordance with the GIP and Generator Interconnection Business Practice Manual. The Transmission Provider will perform the applicable studies for the Surplus Interconnection Request, pursuant to the provisions set forth in the Generator Interconnection Business Practices Manual, to determine whether the Surplus Interconnection Service proposed in the Surplus Interconnection Request would result in material adverse impact on the Transmission System and/or Affected Systems, as compared to the impacts that are created by the Existing Generating Facility, respecting its dispatch levels from the original steady state interconnection study, without the inclusion of the proposed Surplus Interconnection Service. If no original study is available, the Transmission Provider shall apply the current fuel dispatch assumptions used for new Generating Facilities to the

Existing Generating Facility in the steady state study. If Transmission Provider determines that the proposed Surplus Interconnection Service would result in a material adverse impact on the Transmission System and/or Affected Systems, then the proposed Surplus Interconnection Request is deemed to be a Qualified Change and the Interconnection Customer shall proceed through Definitive Planning Phase cycle similar to a request for interconnection of a new Generating Facility or withdraw the Surplus Interconnection Request. The Interconnection Study for the Surplus Interconnection Request will identify the Interconnection Facilities required and the Network Upgrades necessary to address reliability issues associated with the Interconnection Facilities.

### **3.2.4 Injection Rights**

**3.2.4.1 The Product.** Injection Rights serve as a pre-certification of the Transmission System's capability to receive capacity and energy from the MHVDC Transmission Line at the requested Point of Connection, and in the specified MW quantity, without degrading the reliability of the Transmission System. Injection Rights do not grant Interconnection Service or Transmission Service to the MHVDC Connection Customer. Injection Rights must be converted to external Network Resource Interconnection Service as set forth in Section 16.2 of the GIP before those rights may be used to offer energy or capacity into the MISO markets.

**3.2.4.2 The Study.** Requests for Injection Rights shall include both ERIS-level and NRIS-level evaluations. For ERIS-level evaluation, the study will include short circuit/fault duty, steady state (thermal and voltage) and stability analyses. The stability and steady state studies would identify necessary upgrades to allow full output of the proposed MHVDC Transmission Line and would also identify the maximum allowed output, at the time the study is performed, of the

interconnecting MHVDC Transmission Line without requiring any additional upgrades.

For NRIS-level evaluation, the study will assure that the output of the MHVDC Transmission Line meets the requirements for NR Interconnection Service and will qualify any Existing Generating Facility connected to the MHVDC Transmission Line as a Network Resource under Module B and the RAR of the Transmission Provider Tariff. As a general matter, such Generating Facility's interconnection with the Transmission System is studied at both off-peak and peak loads, under a variety of severely stressed conditions, to determine whether, with such Generating Facility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load on the Transmission System or Distribution System, as applicable, consistent with Applicable Reliability Standards. This approach assumes that some portion of an existing Network Resource is displaced by the output of such Generating Facility.

### **3.3 Valid Interconnection Request.**

#### **3.3.1 Initiating an Interconnection Request.**

An Interconnection Customer or an MHVDC Connection Customer wishing to join the next Definitive Planning Phase shall submit their Interconnection Request to the Transmission Provider in the manner required by the Generator Interconnection Business Practices Manual (BPM-015) no later than the application deadline, which will be at least ninety (90) Calendar Days prior to the scheduled kick-off of the Definitive Planning Phase I of that cycle, published on the MISO public website. Any Interconnection Request received after the application deadline published on the MISO public website shall, subject to section 4.1.1, be applied towards a subsequent Definitive Planning Phase cycle. A Provisional Generator Interconnection Agreement may be requested as set forth in Section 7.9 of the GIP.

An Interconnection Customer requesting to join the next Expedited Resource Addition Study (ERAS) shall submit their Interconnection Request to the Transmission Provider no later than the ERAS application deadline as published on the MISO public website, at least fifteen (15) Business Days prior to the scheduled kick-off of the ERAS cycle published on the MISO public website. The valid ERAS request shall be included in an ERAS Quarterly Study Period that commences after it was submitted.

Study deposits for the Definitive Planning Phase (DPP) and the Expedited Resource Addition Study are required based on the Megawatt amount of the new Interconnection Service requested per the following schedule:

| <b>Amount of new Interconnection Service and/or Injection Rights requested (MW)</b> | <b>Non-Refundable Deposit 1 (D1)</b>                                                                                  | <b>Study Deposit 2 (D2)</b> |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------|
| < 6 MW                                                                              | Calculated according to the procedure in 3.3.1 and posted by Transmission Provider prior to the application deadline. | \$50,000                    |
| $20 \geq \text{MW} \geq 6$                                                          |                                                                                                                       | \$120,000                   |
| $50 \geq \text{MW} > 20$                                                            |                                                                                                                       | \$180,000                   |
| $100 \geq \text{MW} > 50$                                                           |                                                                                                                       | \$270,000                   |
| $200 \geq \text{MW} > 100$                                                          |                                                                                                                       | \$320,000                   |
| $500 \geq \text{MW} > 200$                                                          |                                                                                                                       | \$420,000                   |
| $1000 > \text{MW} > 500$                                                            |                                                                                                                       | \$530,000                   |
| $\text{MW} \geq 1000$                                                               |                                                                                                                       | \$640,000                   |

The Transmission Provider shall calculate the amount of the Non-Refundable Deposit 1 (D1) by determining the inflation adjustment in accordance with the inflation calculator located at the U.S. Bureau of Labor Statistics website. The inflation adjustment shall be calculated from the effective date of the original D1 amount of \$5,000, August 2008, to the most up-to-date data available at the time the notification takes place, where such amount will be rounded to the nearest \$100 and posted on the Transmission Provider's website. The Transmission Provider shall post a Non-Refundable Deposit 1 (D1) once

every three years. The Non-Refundable Deposit 1 (D1) amount calculated pursuant to this paragraph shall be applicable to all study groups with an application deadline that is sixty (60) or more Calendar Days after the date that the Transmission Provider posts such amount and will remain effective until Transmission Provider posts a revised calculation pursuant to this paragraph.

An Interconnection Request for the Expedited Resource Addition Study shall be accompanied by a Non-Refundable Deposit 1 (D1) of \$100,000.

An Interconnection Request for a Replacement Generating Facility and/or Surplus Interconnection Service shall be accompanied by a study deposit in the amount of \$60,000.

Thirty (30) Calendar Days after the execution of a non-Provisional Generator Interconnection Agreement or a Transmission Connection Agreement in which the Injection Rights option has been selected, Interconnection Customer or MHVDC Connection Customer may replace any non-encumbered balance of the study deposits with an irrevocable letter of credit reasonably acceptable to Transmission Provider.

Interconnection Customer or MHVDC Connection Customer shall be required to provide to Transmission Provider the following data as further described in the Generator Interconnection Business Practices Manual (BPM-015) along with its Interconnection Request:

- (i) a detailed stability model for the proposed Generating Facility or MHVDC Transmission Line;
- (ii) a detailed power flow model for the proposed Generating Facility or MHVDC Transmission Line;
- (iii) Technical data as outlined in Attachment A of Appendix 1 of this GIP;
- (iv) an Interconnection Study Agreement executed by Interconnection



Customer or MHVDC Connection Customer in the form of Appendix 1, Attachment B;

- (v) a definitive Point of Interconnection or Point of Connection;
- (vi) for Interconnection Requests proposing to share Interconnection Customer Interconnection Facilities with another pending Interconnection Request or existing project, a consent agreement in accordance with Section 3.3.1.4 of these Generator Interconnection Procedures;
- (vii) a one line diagram showing the Generating Facility or MHVDC Transmission Line and associated electrical equipment with appropriate rating and impedance information; and
- (viii) Megawatt amount of new Interconnection Service or Injection Rights requested.

In addition, Interconnection Customer or MHVDC Connection Customer proposing to enter the Definitive Planning Phase shall provide the Definitive Planning Phase entry milestone in the form of either cash or irrevocable letter of credit reasonably acceptable to Transmission Provider.

The Definitive Planning Phase entry milestone (M2) will be calculated as \$8,000 per Megawatt amount of new Interconnection Service or Injection Rights requested.

The Expedited Resource Addition Study entry milestone (M2) will be calculated as \$24,000 per Megawatt for the amount of new Interconnection Service requested.

Except as otherwise provided for Site Control in Section 7.2 of this GIP, all applicable deposits, milestone payments, and data required to enter the Definitive Planning Phase, including the exemptions noted in Section 4.1.2, must be received at the time the application is submitted.

All applicable deposits, milestone payments and data required to enter the Expedited

Resource Addition Study must be received at the time the application is submitted.

Interconnection Customer shall provide proof of Site Control or a cash deposit in lieu of Site Control in accordance with the requirements and timing established in Section 7.2 of this GIP. In the event that an Interconnection Customer or MHVDC Connection Customer has a state regulatory requirement to process two Points of Interconnection or Points of Connection through the entire process, that Interconnection Customer or MHVDC Connection Customer is not required to comply with the Site Control requirements in Section 7.2 for the second Interconnection Request, provided it is properly identified as the required alternative.

The Non-Refundable Deposit 1 (D1) and Study Deposit 2 (D2) shall be applied toward the costs related to processing the Interconnection Request, including costs of Interconnection Studies and GIA negotiation.

The expected In-Service Date of the Generating Facility or MHVDC Transmission Line shall be no later than the process window for the Transmission Provider's regional expansion planning period not to exceed seven years from the date the Interconnection Request is received by Transmission Provider, unless Interconnection Customer or MHVDC Connection Customer demonstrates that engineering, permitting and construction of the Generating Facility or MHVDC Transmission Line will take longer than the regional expansion planning period, nor shall it be any sooner than the process time described in the Generator Interconnection Procedures and confirmed in the Pre-Queue Phase. The In-Service Date may succeed the date the Interconnection Request is received by Transmission Provider by a period up to ten years, or longer where Interconnection Customer or MHVDC Connection Customer and Transmission Provider agree, such agreement not to be unreasonably withheld.

The expected Commercial Operation Date of a Replacement Generating Facility shall be no more than three (3) years from the date of cessation of operation of the Existing

Generating Facility. For Existing Generating Facilities that have not yet reached Commercial Operation, the specified Commercial Operation Date in the GIA of a Replacement Generating Facility shall be no later than the specified Commercial Operation Date in the GIA of the Existing Generating Facility. For Existing Generating Facility that is in suspension pursuant to Section 38.2.7 of the Tariff or in Forced Outage, the start date of suspension or outage shall be considered the date of cessation of operation of the Existing Generating Facility for purposes of calculating the three (3) year limit. If the requested period of time between the cessation of operation of the Existing Generating Facility and expected Commercial Operation Date of the Replacement Generating Facility is more than three (3) years, the request shall be treated as an Interconnection Request for a new Generating Facility. An Existing Generating Facility that was in suspension pursuant to Section 38.2.7 of the Tariff is subject to the time limitations in Section 38.2.7(n) of the Tariff.

An Interconnection Request for a Generating Facility requesting processing through the Expedited Resource Addition Study shall identify the claimed resource adequacy and/or reliability need(s) for which it is being submitted. This should include the location (i.e. the county and state, the electrical bus location(s), and the Local Resource Zone) of any load to be served via the off take agreement as well as the peak demand for electricity expected over any one hour period in MWs—the amount of Interconnection Service requested must not exceed 150 percent of the identified MW need. The Generating Facility and the associated resource adequacy and/or reliability need(s) must be within the same Local Resource Zone, unless the resource adequacy and/or reliability need is included in a resource filing made to the RERRA that is providing the verification required in Section 3.9.1.

The expected Commercial Operation Date included in the Interconnection Request for a Generating Facility requesting processing through the Expedited Resource Addition Study shall be no later than three calendar years from the submission date of the Interconnection Request.

### **3.3.1.1 Additional Requirements for a Surplus Interconnection Request application**

A request for Surplus Interconnection Service made by an Interconnection Customer must meet the requirements listed in section 3.3.1 above, plus the following requirements:

1. The Interconnection Customer of the Existing Generating Facility, or one of its affiliates, shall have priority to utilize Surplus Interconnection Service. If the Interconnection Customer of the Existing Generating Facility or one of its affiliates does not exercise its priority, then the Interconnection Customer may make Surplus Interconnection Service available to other potential Interconnection Customers.
2. The Surplus Interconnection Request shall be accompanied by written confirmation from an officer of the Interconnection Customer of the Generating Facility from which Surplus Interconnection Service will be obtained, indicating: (i) the amount of Surplus Interconnection Service made available by the Interconnection Customer of the Generating Facility from which Surplus Interconnection Service will be obtained; (ii) the type of Interconnection Service (*i.e.*, ERIS or NRIS) made available by the Interconnection Customer of the Generating Facility from which Surplus Interconnection Service will be obtained in accordance with the provisions of Section 3.2.3.1 of this GIP; (iii) the circumstances under which the proposed Surplus Interconnection Service would be available, including an indication of whether the proposed Interconnection Service would be available on a continuous basis (*i.e.*, a certain number of MW of Surplus Interconnection Service would always be available for use by a co-located generating facility) or on a scheduled, periodic basis (*i.e.*, a specified

number of MW of Surplus Interconnection Service that would be available intermittently.

3. Except as provided in Section 3.3.1.1(3)(a) of this Attachment X, the Interconnection Customer must include the MISO Interconnection System Impact Study performed for the Existing Generating Facility when the Generating Facility was originally proposed for interconnection to the MISO Transmission System or, for Generating Facilities studied under a predecessor transmission provider's interconnection process, the original system impact study performed at the time such Generating Facility was originally studied for interconnection to the transmission system. Transmission Provider will use that study to appropriately scope the study for evaluation of the Surplus Interconnection Request. If the Interconnection Customer cannot provide such system impact study with its application, it shall indicate that such study is not available.
  - a. A Request for Surplus Interconnection Service may be submitted by an Interconnection Customer prior to the date that the Generating Facility from which such Interconnection Customer will take Surplus Interconnection Service has obtained an effective Generator Interconnection Agreement provided the following requirements are met:
    1. The Generating Facility from which the Surplus Interconnection Customer will take Surplus Interconnection Service has a valid Interconnection Request the has completed Interconnection Customer Decision Point II of the GIP prior to the date that the Surplus Interconnection Request is submitted;
    2. The Surplus Interconnection Request satisfies each of the

requirements of Section 3.3.1.1 of this GIP except that instead of providing the MISO Interconnection System Impact Study for an Existing Generating Facility specified by Section 3.3.1.1(3), the Surplus Interconnection Customer shall provide the most recently completed Interconnection System Impact Study in the form of the Revised System Impact Study for Definitive Planning Phase II or the Final System Impact Study for Definitive Planning Phase III for the Generating Facility from which Surplus Interconnection Service is to be obtained with the Surplus Interconnection Request;

3. The Surplus Interconnection Customer identifies the study cycle and project number of the Generating Facility from which it will take Surplus Interconnection Service in the Surplus Interconnection Request; and
4. If sharing Interconnection Customer Interconnection Facilities with the Existing Generating Facility, evidence that the Interconnection Customer has entered into a consent agreement that meets the requirements of Section 3.3.1.4.

The Transmission Provider shall commence processing and studying a Surplus Interconnection Request that conforms to the requirements of this Section 3.3.1.1(3)(a) of the GIP in accordance with the provision of Section 3.3.1.2 of this GIP provided that no GIA may be tendered for such Surplus Interconnection Request prior to the date that the Generating Facility from which such Interconnection Customer will take Surplus Interconnection Service has become subject to an effective Generator Interconnection Agreement.

### **3.3.1.2 Evaluation Process for Surplus Interconnection Request and the**

### **Requirements for the Request to Remain Valid**

The following conditions will apply for evaluation of Surplus Interconnection Request:

1. Within thirty (30) Calendar Days of the Transmission Provider's receipt of the completed Surplus Interconnection Request, Transmission Provider will commence a study of the proposed Surplus Interconnection Service pursuant to Section 3.2.3.2 of this GIP to determine whether such service would result in any material adverse impact to the Transmission System and/or Affected Systems and amounts to a Material Modification. Transmission Provider shall use Reasonable Efforts to complete the study of the Surplus Interconnection Request within ninety (90) Calendar Days. If Transmission Provider determines that the Surplus Interconnection Request would result in a material adverse impact to the Transmission System and/or Affected Systems, then the Surplus Interconnection Request shall proceed through the Definitive Planning Phase as a new Interconnection Request.
2. Within thirty (30) Calendar Days after having received results of the Transmission Provider's evaluation, Interconnection Customer requesting Surplus Interconnection Service shall inform Transmission Provider of its election to proceed with its Surplus Interconnection Request. After receiving the Interconnection Customer's election notice, Transmission Provider will initiate an Interconnection Facilities Study or tender a draft GIA, as appropriate. If the Interconnection Customer fails to provide a notice of its election to proceed within thirty (30) Calendar Days after having received results of the Transmission Provider's evaluation, the Transmission Provider will deem the Interconnection Request withdrawn pursuant to Section 3.6 of this GIP.

The Interconnection Facilities Study will be performed, if needed, and will be completed within ninety (90) Calendar Days. If an Interconnection Facilities Study is necessary, the Transmission Provider shall tender a draft *pro forma* GIA within the later of thirty (30) Calendar Days after final Interconnection Facilities Study reports are issued or the date that the GIA for the Generating Facility from which the Surplus Interconnection Customer will take Surplus Interconnection Service becomes effective. If an Interconnection Facilities Study is not necessary, the Transmission Provider shall tender a draft *pro forma* GIA or an amended GIA that conforms to the currently effective *pro forma* GIA, as applicable by the later of thirty (30) Calendar Days after the Interconnection Customer communicates its election to proceed with Surplus Interconnection Service request, or the date that the GIA for the Generating Facility from which the Surplus Interconnection Customers will take Surplus Interconnection Service becomes effective.

Interconnection Customer shall submit an executed Energy Displacement Agreement and Monitoring and Consent Assignment to the Transmission Provider prior to the conclusion of negotiations for the associated GIA, pursuant to Section 11 of this GIP. The executed Monitoring and Consent Agreement shall be in the form of Appendix 11 of the GIP to be effective upon execution of a GIA and must remain in effect during the term of the GIA.

The executed Energy Displacement Agreement shall be in the form of Appendix 12 of the GIP to be effective upon execution of a GIA and must remain in effect during the term of the GIA. If the Interconnection Customer fails to provide an executed Energy Displacement Agreement and a Monitoring and Consent Agreement to the Transmission Provider



prior to the conclusion of negotiations for the associated GIA, the Transmission Provider will deem the Interconnection Request withdrawn pursuant to Section 3.6 of this GIP.

If at any time prior to execution of the GIA the Energy Displacement Agreement or Monitoring and Consent Agreement required above is no longer in effect, the Interconnection Request for Surplus Interconnection Service shall be deemed to have been withdrawn.

**3.3.1.3 Requirements for continuation of Surplus Interconnection Service after retirement or cessation of commercial operation of an Existing Generating Facility**

1. In the event that the Interconnection Customer seeks to continue Surplus Interconnection Service following the retirement and permanent cessation of commercial operation of the Existing Generating Facility associated with that Surplus Interconnection Service, Transmission Provider shall permit the Surplus Interconnection Service to continue for a limited period not to exceed one (1) year if the Existing Generating Facility retired unexpectedly and if the following conditions are met:
  - (i) Transmission Provider studied the Surplus Interconnection Service Generating Facility for sole operation at that Point of Interconnection as a part of Interconnection Study for the Surplus Interconnection Service Generating Facility, and such studies confirm that the Surplus Interconnection Service Generating Facility can be solely and reliably operated after the retirement of the Existing Generating Facility; and
  - (ii) The Existing Generating Facility Interconnection Customer must

provide written consent to the continued operation of the Surplus Interconnection Service Generating Facility at either: (a) the limited level of Surplus Interconnection Service that is reflected in the Surplus Interconnection Service Generating Facility's Generator Interconnection Agreement; or (b) at any level below such limit.

#### **3.3.1.4 Additional Requirements for Interconnection Requests Proposing to Share Interconnection Customer Interconnection Facilities**

Interconnection Customer may submit an Interconnection Request that proposes to share Interconnection Customer Interconnection Facilities with one or more existing projects or pending Interconnection Requests. Interconnection Requests proposing such an arrangement shall so indicate in their Interconnection Request and attach a consent agreement executed by all Interconnection Customers with projects that propose to connect, or are connected, to the shared Interconnection Customer Interconnection Facilities. After an Interconnection Request has been submitted, an Interconnection Customer may only propose to share Interconnection Customer Interconnection Facilities as part of a Point of Interconnection modification. Such consent agreement shall, in accordance with the Business Practices Manuals, describe the proposed configuration of the projects, the proposed ownership of the Interconnection Customer Interconnection Facilities, the division of rights and responsibilities among the parties with respect to operations, maintenance, and repair of the Interconnection Customer Interconnection Facilities, and such other information regarding the operation of the Generating Facilities under this arrangement as may be specified in the Generator Interconnection Business Practice Manual. The consent agreement shall indicate the parties' consent to sharing the Interconnection Customer Interconnection Facilities in the manner described in the Interconnection Request(s).

### **3.3.1.5 Evaluation Process for Interconnection Requests Proposing to Share Interconnection Customer Interconnection Facilities**

Interconnection Requests proposing shared Interconnection Customer Interconnection Facilities shall require the consent of the Transmission Provider to proceed, which consent shall not be unreasonably withheld, conditioned, or delayed. The Transmission Provider shall review Interconnection Requests proposing to share Interconnection Customer Interconnection Facilities amongst multiple projects to confirm compliance with the requirements of Section 3.3.1.4 of these Generator Interconnection Procedures, that all Interconnection Customer responsibilities have been appropriately accounted for, and that all parties have consented to the described arrangement. The Transmission Provider shall complete this review and notify the parties whether the Transmission Provider consents to the proposed arrangement no later than five (5) days prior to the start of the Scoping Meeting in which their requests are discussed, or within ten (10) Business Days after receipt if the consent agreement is submitted as part of a Point of Interconnection modification. In the event that the Transmission Provider does not consent, the Transmission Provider shall provide a written statement of the reasons for such decision to each of the parties. Interconnection Requests that do not receive the Transmission Provider's consent for the sharing of Interconnection Customer Interconnection Facilities may be revised and resubmitted for inclusion in the applicable cycle prior to the start of DPP Phase I. In the event that the consent agreement is submitted as part of a Point of Interconnection modification, the consent for the sharing of Interconnection Customer Interconnection Facilities may be revised and resubmitted within five (5) Business Days of receiving the Transmission Provider's written statement of reasons.

Any Interconnection Customer that has an Interconnection Request pending in the

DPP as of August 14, 2019 and that intends to share Interconnection Customer Interconnection Facilities for that Interconnection Request with one or more existing projects or other Interconnection Requests shall satisfy each of the terms of Sections 3.3.1.4 and 3.3.1.5 of these Generator Interconnection Procedures, prior to the start of GIA negotiations for any Interconnection Request that remains pending in the DPP and that will participate in the sharing arrangement.

### **3.3.2 Acknowledgment of Interconnection Request.**

Transmission Provider shall acknowledge receipt of the Interconnection Request within five (5) Business Days of receipt of the Interconnection Request. Transmission Provider shall tender to Interconnection Customer or MHVDC Connection Customer a copy of the countersigned Interconnection Study Agreement within ten (10) Business Days after the Transmission Provider notifies Interconnection Customer that it has accepted the Interconnection Request as valid pursuant to Section 3.3.3 of this GIP. In addition, within ten (10) Business Days after notifying Interconnection Customer that an Interconnection Request is accepted as valid, Transmission Provider shall submit a summary of the Interconnection Request to Interconnection Customer or MHVDC Connection Customer and likely affected Transmission Owners. All acknowledgments and other communications may be made via e-mail and/or other electronic means.

### **3.3.3 Review of Interconnection Request and Cure of Deficiencies.**

An Interconnection Request will not be considered to be a valid request until all items in Section 3.3.1 have been received by Transmission Provider. If an Interconnection Request fails to meet the requirements set forth in Section 3.3.1, Transmission Provider shall notify Interconnection Customer or MHVDC Connection Customer within fifteen (15) Business Days of receipt of the initial Interconnection Request either that the Transmission Provider has accepted the Interconnection Request as valid or has determined that the Interconnection Request does not constitute a valid request due to one or more deficiencies. In the event Transmission Provider determines that the Interconnection Request does not constitute a valid request, Transmission Provider shall

also provide an explanation of the reasons for such determination. Interconnection Customer shall have ten (10) Business Days from the date that the Transmission Provider identifies the Interconnection Request as deficient to provide the additional requested information needed to constitute a valid request. In the event Transmission Provider discovers or verifies a deficiency later in the GIP process, Transmission Provider will notify Interconnection Customer or MHVDC Connection Customer as soon as practicable. Interconnection Customer or MHVDC Connection Customer shall provide Transmission Provider the additional requested information needed to constitute a valid request no later than ten (10) Business Days after the request is made. Failure by Interconnection Customer or MHVDC Connection Customer to comply with this Section 3.3.3 will result in the Interconnection Request not being processed until such deficiency is cured. In the event that the deficiency is not cured within the required ten (10) business day period, the Interconnection Request shall immediately be deemed withdrawn as of the date of such deadline without any further cure period. The Transmission Provider shall provide written notice to Interconnection Customer or MHVDC Connection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal upon the expiration of the ten (10) business day period. Any refunds of deposits will be processed in accordance with Section 3.6 of this GIP.

#### **3.3.4 Scoping Meeting.**

The Transmission Provider shall establish a date agreeable to Interconnection Customer and Transmission Owner for a Scoping Meeting, and such date shall be at least five (5) Business Days prior to and no more than forty-five (45) Calendar days prior to the kick-off of the Definitive Planning Phase, unless otherwise mutually agreed upon by Transmission Provider, Transmission Owner and Interconnection Customer or MHVDC Connection Customer. The Transmission Provider, Interconnection Customer, or MHVDC Connection Customer, and Transmission Owner must attend the Scoping Meeting. Transmission Provider shall use Reasonable Efforts to include any other Affected System Operators in the Scoping Meeting.

The purpose of the Scoping Meeting shall be to discuss alternative interconnection options, to exchange information including any transmission data that would reasonably be expected to impact such interconnection options, to analyze such information and to determine the potential feasible Points of Interconnection. Transmission Provider, Transmission Owner and Interconnection Customer or MHVDC Connection Customer will bring to the meeting such technical data including, but not limited to, known: (i) general facility loadings, (ii) general instability issues, (iii) general short circuit issues, (iv) general voltage issues including voltage and frequency ride-through capabilities for the Generating Facility, (v) general power quality issues including voltage flicker, harmonics, (vi) general reliability issues; and (vii) diagrams and/or layout of applicable substations as may be reasonably required to accomplish the purpose of the meeting. Transmission Provider and Interconnection Customer or MHVDC Connection Customer will also bring to the meeting personnel and other resources as may be reasonably required to accomplish the purpose of the meeting in the time allocated for the meeting. On the basis of the meeting, Interconnection Customer or MHVDC Connection Customer may modify its Point of Interconnection/Connection and one or more available alternative Point(s) of Interconnection/Connection. Interconnection Customer or MHVDC Connection Customer will have until the beginning of DPP Phase I submit to Transmission Provider its modified Point of Interconnection/Connection or one of its alternative Point(s) of Interconnection/Connection as a result of the Scoping Meeting; if the modified Point of Interconnection includes shared Interconnection Customer Interconnection Facilities, the Interconnection Customer shall submit a consent agreement that meets requirements of Section 3.3.1.4 by the beginning of DPP Phase I. The duration of the meeting shall be sufficient to accomplish its purpose.

### **3.4 OASIS Posting.**

**3.4.1** Transmission Provider will maintain on its OASIS or its website a list of all Interconnection Requests. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. The

list will identify, for each Interconnection Request: (i) the maximum summer and winter megawatt electrical output; (ii) the location by county and state; (iii) the station or transmission line or lines where the interconnection will be made; (iv) the projected In-Service Date; (v) the status of the Interconnection Request, and when applicable, Definitive Planning Phase Queue Position; (vi) the type of Interconnection Service being requested or whether the Interconnection Request is for Injection Rights; (vii) the availability of any studies related to the Interconnection Request; (viii) the date of the Interconnection Request; (ix) the type of Generating Facility to be constructed including technology and fuel type); (x) for Interconnection Requests that have not resulted in a completed interconnection, an explanation as to why it was not completed; (xi) associated Interconnection System Impact Study phase costs by Definitive Planning Phase; and (xii) for a Generating Facility Replacement, the planned date of cessation of operation for the Existing Generating Facility or actual date if the Existing Generating Facility already has ceased commercial operations, the expected Commercial Operation Date of the replacement facility and requested Interconnection Service. Except for projects submitted through the ERAS process as noted in Section 3.9, the list will not disclose the identity of Interconnection Customer or MHVDC Connection Customer until Interconnection Customer or MHVDC Connection Customer executes a GIA or a TCA or requests that Transmission Provider file an unexecuted GIA or TCA with FERC. Transmission Provider shall post to its OASIS site or its website any deviations from the study timelines set forth herein. Interconnection Study reports shall be posted to the Transmission Provider's OASIS site or its website prior to the meeting between Interconnection Customer and Transmission Provider to discuss the applicable study results. Transmission Provider shall also post any known deviations in the Generating Facility's In-Service Date.

Transmission Provider will also maintain on its OASIS or its website a Transmission Owner's general non-binding indication as to whether the Transmission Owner intends to elect to fund the capital costs (self-fund) for Network Upgrades and System Protection Facilities. If Transmission Provider posts this information on its website, a link to the

information must be provided on Transmission Provider's OASIS site.

**3.4.2** Transmission Provider will maintain on its OASIS or its website summary statistics related to processing Interconnection Studies pursuant to Interconnection Requests, updated quarterly. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. For each calendar quarter, Transmission Providers must calculate and post the information detailed in sections 3.4.2.1 through 3.4.2.6. For the Study Metrics provided in Sections 3.4.2.2 and 3.4.2.3, if the relevant 10 Business Days includes one or more holidays, then the number of Business Days will be correspondingly extended and the study will not be considered untimely if completed within the extended period.

**3.4.2.1 Preliminary System Impact Studies in Definitive Planning Phase I Processing Time.**

- (A) Number of Interconnection Requests that had Preliminary System Impact Studies in Definitive Planning Phase I completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Interconnection Requests that had Preliminary System Impact Studies in Definitive Planning Phase I completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than the sum of 10 Business Days for Model Review and 65 Calendar Days for the Preliminary System Impact Study, as per the timelines listed in 7.3.1 of the Generator Interconnection Procedures ("GIP") after the periodic, scheduled start of the Definitive Planning Phase I, which shall commence in conformity with Section 3.3.1 of the GIP,
- (C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Preliminary System Impact Studies in Definitive Planning Phase I exceeding the sum of 10 Business Days for Model Review and 65 Calendar Days for the



- Preliminary System Impact Study as per the timelines listed in 7.3.1 of the GIP, after the periodic, scheduled start of the Definitive Planning Phase I,
- (D) Mean time (in Calendar Days), for Preliminary System Impact Studies in Definitive Planning Phase I completed within Transmission Provider's coordinated region during the reporting quarter, from the periodic, scheduled start of the Definitive Planning Phase I, to the date when Transmission Provider provided the completed Preliminary System Impact Study to the Interconnection Customer,
  - (E) Percentage of Interconnection Requests with Preliminary System Impact Studies in Definitive Planning Phase I exceeding the sum of 10 Business Days for Model Review and 65 Calendar Days for the Preliminary System Impact Study to complete this reporting quarter, calculated as the sum of 3.4.2.1(B) plus 3.4.2.1(C) divided by the sum of 3.4.2.1(A) plus 3.4.2.1(C)).

**3.4.2.2 Revised System Impact Studies in Definitive Planning Phase II Processing Time.**

- (A) Number of Interconnection Requests that had Revised System Impact Studies in Definitive Planning Phase II completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Interconnection Requests that had Revised System Impact Studies in Definitive Planning Phase II completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than the sum of 6 Business Days for Model Review and 75 Calendar Days for the Revised System Impact Study after the date the Interconnection Customer Decision Point I window expired, as per the timelines listed in Section 7.3.2 of the GIP,
- (C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Revised System

Impact Studies in Definitive Planning Phase II exceeding the sum of 6 Business Days for Model Review and 75 Calendar Days for the Revised System Impact Study, as per the timelines listed in 7.3.2 of the GIP, after the Interconnection Customer Decision Point I window expired,

- (D) Mean time (in Calendar Days), for Revised System Impact Studies in Definitive Planning Phase II completed within Transmission Provider's coordinated region during the reporting quarter, from the day after the Interconnection Customer Decision Point I window expired to the date when Transmission Provider provided the completed Revised System Impact Study to the Interconnection Customer,
- (E) Percentage of Interconnection Requests with Revised System Impact Studies in Definitive Planning Phase II exceeding the sum of 6 Business Days for Model Review and 75 Calendar Days for the Revised System Impact Study, to complete this reporting quarter, calculated as the sum of 3.4.2.2(B) plus 3.4.2.2(C) divided by the sum of 3.4.2.2(A) plus 3.4.2.2(C)).

**3.4.2.3 Final System Impact Studies in Definitive Planning Phase III Processing Time.**

- (A) Number of Interconnection Requests that had Final System Impact Studies in Definitive Planning Phase III completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Interconnection Requests that had Final System Impact Studies in Definitive Planning Phase III completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than the sum of 6 Business Days for Model Review and 50 Calendar Days as per the timelines listed in 7.3.3 of the GIP, after the Interconnection Customer Decision Point II window expired,
- (C) At the end of the reporting quarter, the number of active valid

Interconnection Requests with ongoing incomplete Final System Impact Studies in Definitive Planning Phase III exceeding the sum of 6 Business Days for Model Review and 50 Calendar Days, as per the timelines listed in 7.3.3 of the GIP, after the Interconnection Customer Decision Point II window expired,

- (D) Mean time (in Calendar Days), for Final System Impact Studies in Definitive Planning Phase III completed within Transmission Provider's coordinated region during the reporting quarter, from the day after the Interconnection Customer Decision Point II window expired to the date when Transmission Provider provided the completed Final System Impact Study to the Interconnection Customer,
- (E) Percentage of Interconnection Requests with Final System Impact Studies in Definitive Planning Phase III exceeding the sum of 6 Business Days for Model Review and 50 Calendar Days to complete this reporting quarter, calculated as the sum of 3.4.2.3(B) plus 3.4.2.3(C) divided by the sum of 3.4.2.3(A) plus 3.4.2.3(C)).

#### **3.4.2.4 Interconnection Facilities Studies Processing Time.**

- (A) Number of Interconnection Requests that had Interconnection Facilities Studies for Interconnection Facilities or Connection Facilities that are completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Interconnection Requests that had Interconnection Facilities Studies for Interconnection Facilities or Connection Facilities that are completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than 90 Calendar Days after the Interconnection Customer Decision Point I window expired,
- (C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Interconnection

Facilities Studies for Interconnection Facilities or Connection Facilities where such Interconnection Requests had exceeded more than 90 Calendar Days,

- (D) Mean time (in Calendar Days), for Interconnection Facilities Studies for Interconnection Facilities or Connection Facilities completed within Transmission Provider's coordinated region during the reporting quarter, calculated from the day after the Interconnection Customer Decision Point I window expired to the date when Transmission Provider provided the completed Interconnection Facilities Study for Interconnection Facilities or Connection Facilities to the Interconnection Customer,
- (E) Percentage of Interconnection Requests with delayed Interconnection Facilities Studies for Interconnection Facilities or Connection Facilities this reporting quarter, calculated as the sum of 3.4.2.4(B) plus 3.4.2.4(C) divided by the sum of 3.4.2.4(A) plus 3.4.2.4(C)).

**3.4.2.5 Interconnection Facilities Studies for Network Upgrades Processing Time.**

- (A) Number of Interconnection Requests that had Interconnection Facilities Studies for Network Upgrades that are completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Interconnection Requests that had Interconnection Facilities Studies for Network Upgrades that are completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than 90 Calendar Days after completion of the Definitive Planning Phase III Final System Impact Study,
- (C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Interconnection Facilities Studies for Network Upgrades where such Interconnection Requests had exceeded more than 90 Calendar Days,

- (D) Mean time (in Calendar Days), for Interconnection Facilities Studies for Network Upgrades completed within Transmission Provider's coordinated region during the reporting quarter, calculated from the day after completion of the Definitive Planning Phase III Final System Impact Study to the date when Transmission Provider provided the completed Interconnection Facilities Study for Network Upgrades to the Interconnection Customer,
- (E) Percentage of Interconnection Requests with delayed Interconnection Facilities Studies for Network Upgrades this reporting quarter, calculated as the sum of 3.4.2.5(B) plus 3.4.2.5(C) divided by the sum of 3.4.2.5(A) plus 3.4.2.5(C).

**3.4.2.6 Interconnection Requests Withdrawn from Interconnection Queue.**

- (A) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter,
- (B) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before the start of the Definitive Planning Phase I, pursuant to Section 3.3.1 of the GIP,
- (C) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter from start of the Definitive Planning Phase I, pursuant to Section 3.3.1 of the GIP, to at or before the Interconnection Customer Decision Point I window expired,
- (D) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter after the Interconnection Customer Decision Point I window expired to at or before the Interconnection Customer Decision Point II window expired,
- (E) Number of Interconnection Requests withdrawn from Transmission

Provider's interconnection queue during the reporting quarter after the Interconnection Customer Decision Point II window expired to before execution of a Generator Interconnection Agreement or Interconnection Customer requests the filing of an unexecuted, new interconnection agreement

- (F) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue after execution of a Generator Interconnection Agreement or Interconnection Customer requests the filing of an unexecuted, new interconnection agreement,
- (G) Mean time (in Calendar Days), for all withdrawn Interconnection Requests, from the date when the request was determined to be valid to when Transmission Provider received the request to withdraw from the queue.

**3.4.3** Transmission Provider is required to post on OASIS or its website the measures in paragraph 3.4.2.1(A) through paragraph 3.4.2.6(G) for each calendar quarter within 30 Calendar Days of the end of the calendar quarter. Transmission Provider will keep the quarterly measures posted on OASIS or its website for three calendar years with the first required report to be in the first quarter of 2020. If Transmission Provider retains this information on its website, a link to the information must be provided on Transmission Provider's OASIS site.

**3.4.4** In the event that any of the values calculated in paragraphs 3.4.2.1(E), 3.4.2.2(E), 3.4.2.3(E), 3.4.2.4(E), or 3.4.2.5(E) exceeds 25 percent for two consecutive calendar quarters, Transmission Provider will have to comply with the measures below for the next four consecutive calendar quarters and must continue reporting this information until Transmission Provider reports four consecutive calendar quarters without the values calculated in 3.4.2.1(E), 3.4.2.2(E), 3.4.2.3(E), 3.4.2.4(E), or 3.4.2.5(E)) exceeding 25 percent for two consecutive calendar quarters:

- (i) Transmission Provider must submit a report to the Commission describing the reason for each study or group of clustered studies pursuant to an Interconnection Request that exceeded its deadline for completion (excluding any allowance for Reasonable Efforts). Transmission Provider must describe the reasons for each study delay and any steps taken to remedy these specific issues and, if applicable, prevent such delays in the future. The report must be filed at the Commission within 45 Calendar Days of the end of the calendar quarter.
- (ii) Transmission Provider shall aggregate the total number of employee-hours and third party consultant hours expended towards interconnection studies within its coordinated region that quarter and post on OASIS or its website. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. This information is to be posted within 30 Calendar Days of the end of the calendar quarter.

### **3.5 Coordination with Affected Systems.**

Except as modified by Sections 3.5.1 and 3.5.2 of these GIP, Interconnection Customer or MHVDC Connection Customer, Transmission Provider, Transmission Owner and Affected System Operator shall each coordinate and cooperate on studies required to determine the impact of the Interconnection Request on Affected Systems. Transmission Provider will include such Affected System Operators, whose representatives either abide by FERC's Standards of Conduct pursuant to 18 C.F.R Parts 37 and 358 or have executed a non-disclosure agreement with Transmission Provider, in all meetings held with Interconnection Customer as required by the GIP. If the Affected System is not under the functional control of Transmission Provider, the Affected System Operator's procedures shall be applicable. Interconnection Customer or MHVDC Connection Customer will be separately responsible to adhere to the Affected Systems Operator's procedures and costs related to studies and modifications to the Affected System.

Interconnection Customer or MHVDC Connection Customer will cooperate with

Transmission Provider in all matters related to the conduct of studies and the determination of modifications to Affected Systems. Transmission Provider may limit Interconnection Service or Injection Rights for an Interconnection Request until needed reliability upgrades on an Affected System(s) are complete under separate agreements. Each Interconnection Customer or MHVDC Connection Customer shall provide notice to Transmission Owner and Transmission Provider that the facilities built under such agreements are in service.

**3.5.1 Additional Requirements for Interconnection Requests Subject to JTIQ.**

Transmission Provider shall use the rules and procedures contained in Section 9.4.2 of Rate Schedule 6 (MISO-SPP JOA) to apply to Interconnection Customers and Interconnection Requests that have been designated for inclusion in a JTIQ Participation Group or a JTIQ Commitment Group. Interconnection Customers included in a JTIQ Screening Group, JTIQ Participation Group or a JTIQ Commitment Group shall be responsible for adhering to all applicable requirements set forth Section 9.4.2 of the Rate Schedule 6 (MISO-SPP JOA), these Generator Interconnection Procedures, the GIA, and applicable JTIQ Service Agreements.

**3.5.1.1: Inclusion in a JTIQ Screening Group, JTIQ Participation Group, and JTIQ Commitment Group.**

(1) Interconnection Requests shall be included in the JTIQ Screening Group if they are submitted into a DPP study group or an ERAS that: (1) has a study commencement or kick off date that is after the date that the Parties' respective Boards of Directors have approved a JTIQ Portfolio; and (2) has not commenced DPP Phase I studies or an ERAS as of the date that the Transmission Provider and



SPP have declared the JTIQ Portfolio fully subscribed.

(2) Interconnection Requests shall be included in a JTIQ Participation Group if they meet the following criteria:

- (a) the Interconnection Request is determined to have an impact greater than five percent (5%) distribution factor (OTDF or PTDF<sup>1</sup>) on one or more facilities of SPP's transmission system modelled with all transmission facilities rated 100 kV and above; and
- (b) the Interconnection Request is determined to have greater than 1.00 MW (positive) impact on at least one JTIQ Upgrade included in the JTIQ Portfolio.

Any new Interconnection Request for an Existing Generating Facility that is seeking to convert to or increase the level of NRIS service will only be included in the JTIQ Participation Group to the extent of any additional ERIS service requested.

(3) Interconnection Customers shall enter a JTIQ Commitment Group upon obtaining an effective GIA and JTIQ Commitment Agreement that obligate such Interconnection Customer to pay, and provide security for, JTIQ Generator Charges. Placement into the applicable JTIQ Commitment Group shall be governed by the terms of the Commitment Agreement and Section 2 of

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<sup>1</sup> Power Transfer Distribution Factor (PTDF) - The percentage of power transfer flowing through a facility or a set of facilities for a particular transfer when there are no contingencies. Outage Transfer Distribution Factor (OTDF) - The percentage of a power transfer that flows through the monitored facility for a particular transfer when the contingency facility is switched out of service.

Attachment JJJ to the Tariff.

**3.5.2. Application of Affected Systems Coordination Procedures to Interconnection Requests Included in an Expedited Resource Addition Study**

The Transmission Provider shall apply to ERAS Interconnection Requests, and the ERAS Interconnection Customer shall adhere to, the same coordination procedures and same screening criteria applicable to Interconnection Requests included in a DPP Study Group with the following exceptions: (1) The Transmission Provider will submit all information necessary to enable an Affected System to study the impacts of an ERAS Interconnection Request not later than ten (10) Calendar Days prior to the kickoff of the applicable ERAS study for such project; (2) The Transmission Provider will provide any affected systems analysis received from the affected system to the ERAS Interconnection Customer promptly upon receipt; (3) In the event that affected systems studies and cost information are not available at the time the EGIA is tendered, such EGIA shall include an obligation to execute any agreements for the study, construction, or funding of Network Upgrades identified by the affected system within fifteen (15) Calendar Days after such agreement is tendered for execution to the Interconnection Customer; (4) The Transmission Provider shall submit ERAS Interconnection Requests to the applicable affected system individually and request that such affected system study

the impacts of ERAS Interconnection Requests on a serial basis; and (5)  
For those affected systems where MISO and the affected system utilize a  
specified point in MISO's multi-phase process such as a Decision Point or  
phase kickoff date to establish the queue priority date of MISO  
Interconnection Requests, MISO shall assert a queue priority date for  
ERAS projects as of the date MISO commences the ERAS System Impact  
Study unless the controlling agreement between MISO and the affected  
system expressly provide an alternate queue priority date for ERAS  
projects. Interconnection requests with an earlier queue priority date as  
determined in accordance with this Section 9.4.3(a) will have a higher  
relative queue priority than those with a later queue priority date.

### **3.6 Withdrawal.**

Interconnection Customer or MHVDC Connection Customer may withdraw its Interconnection Request at any time by written notice of such withdrawal to Transmission Provider. In addition, if Interconnection Customer fails to adhere to all requirements of the GIP, except as provided in Section 13.5 (Disputes), Transmission Provider shall deem the Interconnection Request to be withdrawn and shall provide written notice to Interconnection Customer or MHVDC Connection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal. Unless otherwise provided in this GIP, upon receipt of such written notice, Interconnection Customer or MHVDC Connection Customer shall have fifteen (15) Business Days in which to either respond with information or actions that cure the deficiency or to notify Transmission Provider of its intent to pursue Dispute Resolution.

In the event that an MHVDC Transmission Connection Request is withdrawn or deemed

withdrawn in accordance with the terms of Attachment GGG to the Tariff, then all Interconnection Requests associated with that MHVDC Transmission Connection Request will also be deemed withdrawn.

Withdrawal prior to or during Interconnection Customer Decision Point I shall result in the loss of the Interconnection Customer's or MHVDC Connection Customer's Definitive Planning Phase Queue Position. Withdrawal after Interconnection Customer Decision Point I, but prior to or during Interconnection Customer Decision Point II shall result in the loss of the Interconnection Customer's or MHVDC Connection Customer's Definitive Planning Phase Queue Position and forfeiture of the Definitive Planning Phase entry milestone (M2) payment. Withdrawal after Interconnection Customer Decision Point II shall result in the loss of Interconnection Customer's or MHVDC Connection Customer's Definitive Planning Phase Queue Position and forfeiture of the M2, M3 and M4 milestone payments, except as otherwise provided in Section 7.6.2 and 7.8.

If an Interconnection Customer or MHVDC Connection Customer disputes the withdrawal and loss of its applicable queue position, then during Dispute Resolution, the Interconnection Customer's or MHVDC Connection Customer's Interconnection Request is eliminated from the queue until such time that the outcome of Dispute Resolution would restore its applicable queue position.

An Interconnection Customer or MHVDC Connection Customer that withdraws or is deemed to have withdrawn its Interconnection Request shall pay to Transmission Provider all costs that Transmission Provider prudently (i) incurs prior to the Transmission Provider's receipt of notice described above and (ii) will incur as a result of the withdrawal. Interconnection Customer or MHVDC Connection Customer must pay all monies due to Transmission Provider before it is allowed to obtain any Interconnection Study data or results.

Transmission Provider shall (i) update the OASIS list of Interconnection Requests and

(ii) refund to Interconnection Customer or MHVDC Connection Customer any portion of the Interconnection Customer's or MHVDC Connection Customer's study deposit that exceeds the costs that Transmission Provider has incurred or will incur as a result of the withdrawal as described in Section 13.3, including interest earned on the Interconnection Customer's or MHVDC Connection Customer's study deposit and Definitive Planning Phase entry milestone payment while held in Transmission Provider's interest-bearing, money market account, or if such account does not exist, then the interest calculated in accordance with 18 C.F.R. Section 35.19a(a)(2)(iii). In the event of such withdrawal, Transmission Provider, subject to the confidentiality provisions of Section 13.1, shall provide, at Interconnection Customer's or MHVDC Connection Customer's request, all information that Transmission Provider developed for any completed study conducted up to the date of withdrawal of the Interconnection Request.

### **3.7 Additional requirements for Generating Facility Replacement Requests.**

#### **3.7.1 Requirements for Replacement Generating Facility Requests.**

- i) Except as provided in Section 3.7.1(i)(a) of this Attachment X, any Replacement Generating Facility must connect to the Transmission System at the same electrical Point of Interconnection (i.e. same voltage level at the interconnecting substation) as the Existing Generating Facility.
  - a. An Interconnection Customer shall perform, and Transmission Provider shall validate an evaluation study utilizing the latest available DPP phase model to ensure the Replacement Generating Facility connecting to a different Point of Interconnection will: (1) connect to the same voltage level unless the same voltage level is not available by the COD; (2) not cause new constraints, as demonstrated by a contingency analysis performed in accordance with BPM-015; (3) and change the Power Transfer Distribution Factor less than 5% on any branch unless it is a zero impedance element or a line on the shortest path without queued Interconnection Requests from the existing Point of Interconnection to the

new Point of Interconnection.

- ii) The request for Generating Facility Replacement must be submitted to the Transmission Provider by the Interconnection Customer for its Existing Generating Facility at least one (1) year prior to the date that the Existing Generating Facility will cease operation unless the Existing Generating Facility is in suspension or approved for suspension pursuant to Section 38.2.7 of the Tariff or in Forced Outage, and at least one (1) year prior to the Commercial Operation Date for the Replacement Generating Facility. For the Existing Generating Facility approved for suspension or in forced outage, the request for Generating Facility Replacement must be submitted prior to 25th cumulative month of suspension or forced outage within 5 years period. The request shall include the planned or actual date of cessation of operation for the Existing Generating Facility and the expected Commercial Operation Date for the Replacement Generating Facility.
- iii) The Interconnection Customer shall request only ER Interconnection Service for the Replacement Generating Facility if the Existing Generating Facility has only ER Interconnection Service. The request for NR Interconnection Service for the Replacement Generating Facility, when the Existing Generating Facility has only ER Interconnection Service, shall be submitted as a separate Interconnection Request and shall proceed through the Definitive Planning Phase cycle in the same manner as an Interconnection Request for a new Generating Facility. The Interconnection Customer may request either ER Interconnection Service or NR Interconnection Service for the Replacement Generating Facility if the Existing Generating Facility has NR Interconnection Service. Requests for ER or NR Interconnection Service that exceed the amount of Interconnection Service for the Existing Generating Facility shall be processed as a new Interconnection Request for the amount of such excess pursuant to Section 3.7.1.iv of this Attachment X to the Tariff.

- iv) If the Replacement Generating Facility requires Interconnection Service (MW) in excess of that of the Existing Generating Facility that is being replaced, Interconnection Customer shall initiate a separate request for Interconnection Service in an amount (MW) equal to the excess. Such Interconnection Request shall be assigned a new Queue Position, and proceed through the Definitive Planning Phase cycle in the same manner as an Interconnection Request for a new Generating Facility.
- v) If the request for Generating Facility Replacement requests less Interconnection Service (MW) than that of the Existing Generating Facility that is being replaced, the owner shall be required to submit an Attachment Y Notice for the amount (MW) of such decrease in generating capacity to the Transmission Provider prior to the execution of the GIA of the Replacement Generating Facility or the election by the Interconnection Customer to proceed unexecuted. If the Interconnection Customer indicates in its Interconnection Request that the Reliability Assessment Study shall include analysis of a retirement scenario, the timing of the associated Attachment Y will supersede the requirements of Section 38.2.7 of the Tariff, as the Reliability Assessment Study completed as part of generator replacement process will determine the system impacts for the loss of the generation.
- vi) Except as provided in Section 3.7.1(vi)(a) of this Attachment X, no request for Generating Facility Replacement may be made until twelve (12) months have elapsed from: (1) the date of any assignment of the Generator Interconnection Agreement applicable to the Existing Generating Facility, or (2) the date of sale or other transfer of such Existing Generating Facility. When an Existing Generating Facility is owned by more than one party and such coownership has existed for at least twelve (12) months prior to the date that the request for Generating Facility Replacement has been made, the restrictions described in this paragraph on transfers shall not preclude such co-owners from determining their respective

ownership percentages in the Replacement Generating Facility, provided that the ownership interests in the Replacement Generating Facility is disclosed in the request of the Interconnection Customer that owns or controls the Existing Generating Facility pursuant to an existing Generator Interconnection Agreement for Generating Facility Replacement. Upon submission of a request for Generating Facility Replacement, the Interconnection Customer shall not sell or otherwise transfer the Existing Generating Facility, the Replacement Generating Facility, nor assign the applicable Generator Interconnection Agreement except as provided in Section 3.7.1(vi)(a) of this Attachment X until such time as the Transmission Provider completes evaluation of the request for Generating Facility replacement unless the Interconnection Customer first withdraws such request for Generating Facility Replacement in writing. In the event that the Transmission Provider notifies Interconnection Customer that the request for Generating Facility Replacement has been granted, the prohibition on sales, transfers, or assignments not authorized by this Attachment X shall be extended in accordance with Section 3.7.5 of this Attachment X. For purposes of this Section 3.7.1 (vi), prohibited assignments include assignments to affiliates pursuant to Article 19.1 of the *pro forma* Generator Interconnection Agreement or any analogous provision in the applicable GIA.

- a. An Interconnection Customer may: (1) sell or otherwise transfer its Existing Generating Facility, (2) assign its Generator Interconnection Agreement; or (3) sell or otherwise transfer a Replacement Generating Facility to an entity or entities meeting the requirements of Section 3.7.1(vi)(a)(1) below without violating this Section 3.7.1(vi) if all of the following conditions are satisfied prior to such sale, assignment or transfer becoming effective:
  1. The Interconnection Customer that owns or controls the Existing Generating Facility pursuant to an existing Generator Interconnection Agreement demonstrates to the Transmission Provider that it both:



- i. Holds, directly or indirectly, not less than a 25% ownership interest in each entity receiving the applicable assignment or transfer as demonstrated through documentation of: (1) shares or a partnership interests in the transferee/assignee; (2) a right to receive at least 25% of net proceeds from the sale of the transferred or assigned generating facility; or (3) another form of interest in the transferee/assignee that is recognized by the Commission as equivalent to an ownership interest;
  - ii. Has the documented right to direct the performance of such entity with respect to any obligation under MISO's Tariff and Generator Interconnection Agreement applicable to the transferred Generating Facility; and
2. The Interconnection Customer that owns or controls the Existing Generating Facility pursuant to an existing Generator Interconnection Agreement and the entity that received the assignment or transfer commit in documentation to be supplied to the Transmission Provider prior to the effective date of any sale, assignment or transfer: (i) that the Interconnection Customer shall retain the ownership and control required by Section 3.7.1(vi)(a)(1) of this Attachment X until the Replacement Generating Facility achieves commercial operation in accordance with Section 3.7.5 of this Attachment X, unless the request for Generating Facility Replacement is denied or withdrawn; (ii) that the entity receiving the assignment or transfer under this section 3.7.1(vi) of this Attachment X agrees not to further sell, transfer or assign its interests in the Existing Generating Facility, Replacement Generating Facility, or Generator Interconnection Agreement

except in accordance with this Attachment X; and (iii) to provide the Transmission Provider upon request with documentation demonstrating continued compliance with the requirements of Section 3.7.1(vi) of this Attachment X at any time prior to the date that the applicable Replacement Generating Facility achieves commercial operation; and

3. The Interconnection Customer receives the consent of the Transmission Provider, which consent shall be granted upon the Transmission Provider determining that the proposed transfer(s) or assignment(s) comply with the requirements of Section 3.7.1(vi)(a) of these Generator Interconnection Procedures.

A transfer, sale, or assignment of the Existing Generating Facility, Replacement Generating Facility, or applicable GIA that violates this Section 3.7.1 (vi) or Section 3.7.1(vi)(a) of Attachment X shall void the request for Generating Facility Replacement.

#### **3.7.1.1 Requirements for modification of Replacement Generating Facility Requests.**

The request for Replacement Generating Facility can be modified any time before the evaluation process is complete.

- 1) If the revised planned date of cessation of operation for the Existing Generating Facility is prior to the planned date of cessation of operation specified in original request, a new request for Replacement Generating Facility must be submitted at least one (1) year prior to the date that the Existing Generating Facility is planned to cease operation.
- 2) If the revised expected Commercial Operation Date for the Replacement Generating Facility is after the expected Commercial Operation Date for the Replacement Generating Facility in the original request, a new request for

Replacement Generating Facility must be submitted at least one (1) year prior to the date that the Existing Generating Facility is planned to cease operation, unless the Existing Generating Facility is in suspension pursuant to Section 38.2.7 of the Tariff or in Forced Outage.

### **3.7.2 Evaluation Process for Generating Facility Replacement Requests.**

The Transmission Provider will evaluate Generating Facility Replacement requests in the order in which they are submitted. The evaluation will consist of two studies: i) a Replacement Impact Study as set forth in Section 3.7.2.1 of the GIP, and ii) a Reliability Assessment Study as set forth in Section 3.7.2.2 of the GIP.

Transmission Provider shall use Reasonable Efforts to complete the Replacement Impact Study and Reliability Assessment Study and share results with the Interconnection Customer within one hundred eighty (180) Calendar Days of the request.

#### **3.7.2.1 Generating Facility Replacement—Replacement Impact Study.**

The Replacement Impact Study will include analyses to determine if the Replacement Generating Facility has a material adverse impact on the Transmission System when compared to Existing Generating Facility. The Replacement Impact Study may include steady-state (thermal/voltage), reactive power, short circuit/fault duty, and stability analyses, as necessary, to ensure that required reliability conditions are studied. If the Replacement Impact Study identifies any materially adverse impact from operating the Replacement Generating Facility when compared to the Existing Generating Facility, such impacts shall be deemed a Qualified Change, and in order to move forward, the Interconnection Customer must submit all information and milestone payments necessary for a valid Interconnection Request for a new Generating Facility pursuant to Section 3.3 of this GIP, be assigned queue priority as of the date such information and milestones are provided, and proceed through the Definitive Planning Phase cycle as an Interconnection Request for a new Generating Facility. In such event, the Interconnection Customer shall be subject to the timing and requirements of Section 38.2.7 of the Tariff for any

retirement of the Existing Generating Facility.

### **3.7.2.2 Generating Facility Replacement—Reliability Assessment Study**

The Reliability Assessment Study for the time period between the date that the Existing Generating Facility ceases commercial operations and the Commercial Operation Date of the Replacement Generating Facility shall evaluate the performance of the Transmission System to determine if thermal and/or voltage violations of applicable NERC Standards and Transmission Owner planning criteria are caused by removing the Existing Generating Facility from service prior to the Commercial Operation Date of the Replacement Generating Facility. This study shall compare the conditions on the Transmission System that would exist if the Existing Generating Facility is taken offline to the conditions on the Transmission System as they exist when the Existing Generating Facility is online. The scope of Reliability Assessment Study may include stability analysis as necessary. The Existing Generating Facility shall be responsible for mitigating any reliability violation identified in the Reliability Assessment Study and may not cease operations until all mitigations are implemented or are in service. Mitigation for this interim period may, as applicable, include: (i) redispatch/reconfiguration through operator instruction; and (ii) remedial action scheme or any other operating steps depending upon the type of reliability violation identified.

The Interconnection Customer may request in its Interconnection Request that the Reliability Assessment Study include an analysis equivalent to an Attachment Y study, as defined in Section 38.2.7 of the Tariff. The Transmission Provider shall include such analysis in the Reliability Assessment Study when requested. After completion of the Reliability Assessment Study with all reliability violations mitigated for the Existing Generating Facility, the Interconnection Customer may choose to submit an Attachment Y request to obtain suspension approval based on Reliability Assessment Study results before the GIA for the Replacement Generating Facility is executed or the Interconnection Customer elects to proceed unexecuted or sixty (60) days after the

request for Generating Facility Replacement request is withdrawn.

### **3.7.3 Generating Facility Replacement - Notice to Proceed**

Interconnection Customer requesting Generating Facility Replacement shall inform Transmission Provider within thirty (30) Calendar Days after having received results of the Replacement Impact Study and Reliability Assessment Study of its election to proceed and Transmission Provider will initiate an Interconnection Facilities Study or tender a draft GIA. Interconnection Customer that fails to provide an election to proceed within thirty (30) Calendar Days will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP.

### **3.7.4 Scope of Interconnection Facilities Study**

Interconnection Facilities Study focusing on the Interconnection Facilities for the Replacement Generating Facility will start, if the Transmission Provider determines such a study is necessary, upon Interconnection Customer's notice to proceed to the Transmission Provider after completion of the Replacement Impact Study and the Reliability Assessment Study. This Interconnection Facilities Study will identify estimates for cost and the time required to construct the Interconnection Facilities. Transmission Provider shall use Reasonable Efforts to complete this portion of the Interconnection Facilities Study within ninety (90) Calendar Days.

### **3.7.5 GIA for Generating Facility Replacement.**

Transmission Provider shall tender a draft *pro forma* GIA or GIAs or, if deemed appropriate, an amended GIA or GIAs that conforms to the *pro forma* GIA in effect at the time, within thirty (30) Calendar Days after the Interconnection Customer communicates its election to proceed with Generator Replacement if an Interconnection Facilities Study is not required or within thirty (30) Calendar Days after final Facility Study reports are provided to the Interconnection Customer. An Interconnection Customer that transferred or assigned a Replacement Generating Facility to one or more entities consistent with the

requirements of 3.7.1(vi)(a) may elect for each such entity to receive a separate GIA for its Replacement Generating Facility. The draft *pro forma* GIA shall include updated appendices describing the timing of Generating Facility Replacement and a condition that the GIA or GIAs cannot be assigned and the Replacement Generating Facility cannot be transferred to any other Party, including an affiliate of the Interconnection Customer other than as allowed by Section 3.7.1(vi)(a) of this Attachment X, until such date as the applicable Replacement Generating Facility achieves commercial operation. A transfer, sale, or assignment of the Existing Generating Facility, Replacement Generating Facility, or applicable GIA that violates this Section 3.7.5 shall be void and constitute a material breach of the GIA.

If the MW of a Generating Facility Replacement request is less than the MW of the Existing Generating Facility that is being replaced, the Interconnection Customer cannot make any additional Generating Facility Replacement requests after the first GIA for the Generating Facility Replacement is executed or the Interconnection Customer elects to proceed unexecuted.

### **3.8 Identification of Contingent Facilities.**

MISO identifies Contingent Facilities using the following three methods:

- i. Review all transmission facilities included in Interconnection System Impact Studies performed for an Interconnection Request that are: (1) listed in Appendix A of the Transmission Provider's Transmission Expansion Plan (MTEP) that are not yet in service, unless the Transmission Provider determines through the exercise of engineering judgment and after consultation with the applicable Transmission Owner(s), that such project does not address an existing overload and will not impact the injection of the Interconnection Request, such as age related line renewal projects that are not Baseline Reliability Project; or (2) identified as Network Upgrades through the System Impact Studies for higher queued Interconnection Requests that are not yet in service. Contingent Facilities shall be identified from this list as those facilities that meet the following criteria:

- a. Power Transfer Distribution Factor or Outage Transfer Distribution Factor  $\geq 5\%$  and;
  - b. MW impact (Power Transfer Distribution Factor or Outage Transfer Distribution Factor multiplied by generator output of the Interconnection Request)  $\geq 5$  MW, and;
  - c. MW impact (Power Transfer Distribution Factor or Outage Transfer Distribution Factor multiplied by generator output of the Interconnection Request)  $\geq 1\%$  of the Facility Rating.
- ii. All Network Upgrades identified in the Final System Impact Study for a given Interconnection Request pursuant to Section 7.3.3.3 of this GIP.
  - iii. Coordination with applicable Affected System parties to determine what Contingent Facilities have been identified through Affected System Studies based on their respective criteria.

The Contingent Facilities identified for a given Interconnection Request are the total of all facilities identified through each of the foregoing three methods as well as all JTIQ Upgrades included in a JTIQ Portfolio that meet one of these foregoing methods, for which the Interconnection Customer has been designated for inclusion in the JTIQ Participation Group. Transmission Provider shall provide an initial list of Contingent Facilities at the start of the Interconnection Customer Decision Point II, which list shall include facilities identified in the Revised System Impact Study performed pursuant to Section 7.3.2.3, and the final list of Contingent Facilities shall be documented in Appendix A of the Generator Interconnection Agreement for such Interconnection Request. The estimated Interconnection Facility and/or Network Upgrade costs and estimated in-service completion time of each identified Contingent Facility shall be provided in Appendix A of the Generator Interconnection Agreement for such Interconnection Request when this information is readily available and not commercially sensitive.

### **3.9 Expedited Resource Addition Study.**

### **3.9.1 Requirements for Expedited Resource Addition Study.**

A request for processing through the Expedited Resource Addition Study made by an Interconnection Customer must meet the requirements listed in Section 3.3.1 above, plus the following requirements:

1. The Interconnection Request shall be accompanied by a written verification from the RERRA (or its documented representative) where the load to be served by the Generating Facility is located, subject to the procedures or methods the RERRA requires, that either:

- i. the new, incremental load addition claimed by the Interconnection Customer is valid and not otherwise included in a resource plan or other process under the RERRA's purview.

- a. The RERRA (or its documented representative) may provide such written verification in conjunction with another state or municipal agency or official (e.g. economic development authority or governor's office) to verify the new, incremental load addition above.

or

- ii. the Generating Facility proposed by the Interconnection Customer will address a resource adequacy deficiency as determined by the RERRA, State, Load Serving Entity, or Interconnection Customer. The determination can be supported by:

- a. A state energy forecast, or other forward-looking forecast;
    - b. Commencement of a state proceeding;
    - c. Review of a RERRA, LSE, or other state resource plan or document, which may include, but is not limited to: integrated resource plans, procurement plans, or other plan or study types;



- d. Response to a Request for Proposals (RFP); or
- e. Other process, or delegation of authority, as determined by the RERRA or RERRA regulations (including in retail choice states).

or

- iii. If an Interconnection Customer's new Generating Facility will address a resource adequacy deficiency and will either:
  - (1) serve retail choice load located in a state that limits the amount of load that can select retail choice to a percentage of the electric utility's average weather-adjusted retail sales;

or

- (2) serve load in a retail choice state and will be located in a retail choice state other than one that limits the amount of load that can select retail choice to a percentage of the electric utility's average weather adjusted retail sales,

then the Interconnection Customer will indicate the specific load on the Interconnection Request in Section 4.s of Appendix 1 and provide the evidence of determination in (ii) above, but will not be required to include a written verification from a RERRA as described in section 3.9.1(i) or (ii). The Transmission Provider shall notify the respective RERRA that an Interconnection Request for a new Generating Facility has been submitted requesting processing through the Expedited Resource Addition Study process and transmit a copy of the Interconnection Request to the respective RERRA. The RERRA shall have 10 Business Days from the date of the Transmission Provider's notification and the simultaneous transmittal of the copy of the Interconnection Request to notify the Transmission Provider that the Interconnection Request should not be

considered in the ERAS process. If no such notice is received at the end of 10 Business Days or if the RERRA notifies the Transmission Provider of its non-opposition prior to the end of the 10 Business Days, the Interconnection Request shall be studied through the Expedited Resource Addition Study process provided it meets the requirements listed in Section 3.3.1 and Section 3.9.2.

A RERRA's written verification is not intended to constitute or provide evidence of any final determination of need or suitability of the project for any purpose by the issuing entity beyond requesting that the Transmission Provider apply the ERAS process for such project.

and

2. An executed agreement evidencing that the projects submitted for ERAS processing is intended to be used by the entity with the claimed resource adequacy and/or reliability need. Such agreement shall take one of the following forms:
  - a. A Load Serving Entity acknowledgement to self-supply;
  - b. A Power Purchase Agreement (PPA) or similar off-take agreement between the Interconnection Customer submitting the project for ERAS consideration and the entity with the load to be served (including, but not limited to, an Alternative Retail Electric Supplier or its Load Serving Entity);
  - c. An agreement that calls for the Interconnection Customer to develop the Generating Facility described in the Interconnection Request and subsequently transfer ownership or control of such Generating Facility (Build-Own-Transfer Agreement) to the entity with the load to be served (including, but not limited to, an Alternative Retail Electric Supplier or its Load Serving Entity); or

- d. Other agreement between the entity submitting the Interconnection Request, including the RERRA verification letter as appropriate, and the entity with the load to be served (including, but not limited to, an Alternative Retail Electric Supplier or its Load Serving Entity), stating that the ERAS project will be used to meet an identified resource adequacy deficiency.

No changes shall be made to the ERAS Interconnection Request after submission.

### **3.9.2 Evaluation Process for Expedited Resource Addition Study.**

The Transmission Provider will evaluate Expedited Resource Addition Study requests in the order in which they are submitted using the time stamp from submission. The Transmission Provider will limit the maximum number of the ERAS Interconnection Requests studied in the ERAS process to no more than 68 projects total until the sunset date noted in Section 3.9.9. The Transmission Provider has carved out a maximum of 8 Interconnection Requests of the total 68 Interconnection Requests that may be submitted in accordance with 3.9.1.1(iii) to serve retail choice load and a maximum of 10 Interconnection Requests of the total 68 Interconnection Requests that may be submitted by Independent Power Producers (IPPs) with agreements with entities other than Load Serving Entities to ERAS until the sunset date noted in Section 3.9.9.

The Transmission Provider will limit the maximum size of each ERAS Quarterly Study Period to no more than 10 Interconnection Requests. If more than 10 Interconnection Requests are submitted for one ERAS Quarterly Study Period, those surpassing the limit will be studied in a subsequent ERAS study cycle in the order in which they were submitted. If an ERAS Interconnection Request is within a similar geographical area or impacts the same constraint as another ERAS Interconnection Request within the same ERAS Quarterly Study Period, as defined in the Generator Interconnection Business Process Manuals, then the later

submitted request(s) will be studied in a subsequent ERAS study cycle.

An Interconnection Request that does not meet the requirements of ERAS per Section 3.9.1 will be notified by the Transmission Provider and automatically moved to the standard Definitive Planning Phase queue unless the customer chooses to opt out by notifying Transmission Provider. If deemed ineligible for the ERAS process, the project will forfeit its Non-Refundable Deposit D1.

An Interconnection Customer submitting an Interconnection Request to a standard Definitive Planning Phase queue may also submit a request for ERAS for evaluation. If the request meets the requirements for ERAS processing set forth in Section 3.9.1, the Interconnection Request seeking processing through the standard Definitive Planning Phase queue must be withdrawn from the Definitive Planning Phase queue prior to ERAS kickoff. Upon withdrawing from the Definitive Planning Phase queue, the project will forfeit its Non-Refundable Deposit D1 and will be subject to penalties per Sections 7.6.2.1.1 and 7.8.

An Interconnection Request included in an active Definitive Planning Phase that has not reached Decision Point II may withdraw from the Definitive Planning Phase and move their Interconnection Request to the ERAS if they meet the requirements for ERAS processing. The project will be subject to penalties per Sections 7.6.2.1.1. and 7.8 and must meet the ERAS requirements in Section 3.9.1. Verification of Site Control will be specified in the Generator Interconnection Business Practice Manual to authenticate applicability. An Interconnection request that has been withdrawn from the Definitive Planning Phase after completion of Decision Point II may be moved to ERAS after a period of one year from the withdrawal date.

### **3.9.3 The Study.**

The Interconnection Study for ERAS will follow the same manner of NR

Interconnection Study as noted in Sections 3.2.1.2 and 3.2.2.2 needed to integrate the Generating Facility in the same manner as for any Generating Facility being designated as a Network Resource. Transmission Provider will use Reasonable Efforts to study ERAS Interconnection Requests from all Interconnection Customers regardless of Generating Facility within sixty (60) Calendar Days after the kickoff date for such study. The study will be performed for each Interconnection Request individually in a serial fashion based on their submission date per ERAS Quarterly Study Period. The study will result in a Final System Impact Study and any associated Interconnection Facilities Studies.

Transmission Provider shall include in the final study any Affected System Study results and information regarding Network Upgrades from Affected Systems provided the Affected System Study Reports are available. If Affected Systems analysis is not available for inclusion in the final study, the Transmission Provider shall provide such analysis separately when received from the applicable Affected System.

#### **3.9.4 Notice to Proceed to EGIA.**

Interconnection Customer requesting to be included in ERAS shall inform Transmission Provider of its election to proceed within five (5) Calendar Days after receiving the draft results of the Expedited Resource Additions Study. Interconnection Customer that fails to provide an election to proceed within five (5) Calendar Days will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP. EGIA execution shall occur no later than 30 Calendar days after receiving Interconnection Customer's election to proceed.

#### **3.9.5 GIA for Expedited Resource Addition Study Projects (EGIA).**

Transmission Provider shall tender a draft *pro forma* EGIA, that conforms to the *pro forma* GIA in effect at the time, as modified for ERAS, within five (5) Business Days after the Customer provides notice to proceed to EGIA

negotiations. In the event that SPP's JTIQ Service Agreement has not been provided to Interconnection Customer prior to tender of a draft EGIA, the draft EGIA shall include a milestone in Appendix B obligating Interconnection Customer to execute or request the unexecuted filing of SPP's JTIQ Service Agreement not later than 15 Calendar Days after such agreement has been tendered to the Interconnection Customer. Upon tender of the EGIA, the ERAS Interconnection Request shall be subject to the timing and procedures set forth in Sections 11.1 through 11.4 of these GIP.

Transmission Provider shall include in the final EGIA any Affected System Study results and information regarding Network Upgrades from Affected Systems provided the Affected System Study Reports are available. If Affected System analysis is not available for inclusion in the final EGIA, the Transmission Provider shall provide such analysis separately when received from the applicable Affected System. An Interconnection Request included in a JTIQ Participation Group shall adhere to all JTIQ procedures, and execute JTIQ Service Agreements as applicable.

### **3.9.6 Expedited Resource Addition Study Refunds.**

#### **3.9.6.1 Refunds of Expedited Resource Addition Study Deposits D2.**

Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Expedited Resource Addition Study. Any difference between the study deposit and the actual cost of the applicable Interconnection Study shall be paid by or refunded to the Interconnection Customer as applicable.

#### **3.9.6.2 Refunds of Expedited Resource Addition Study Entrance Milestone (M2).**

Interconnection Customers are eligible to receive one hundred percent (100%) refund of the Expedited Resource Addition Study entry milestone

(M2) upon withdrawal prior to execution of the EGIA. Interconnection Customers that terminate the EGIA after execution are eligible to receive a refund of the remaining M2 milestone payment.

**3.9.6.3 Applicability of Expedited Resource Addition Milestone Payment (M2) to Expedited Generator Interconnection Agreement Initial Payment.**

In the event the Interconnection Customer has elected to make its milestones in the form of cash, Transmission Provider will transfer the Expedited Resource Addition Study milestone to the appropriate Transmission Owner to satisfy the initial payment requirement of the Expedited Generator Interconnection Agreement, TCA or other applicable service agreement within forty-five (45) Calendar Days of the effective date of the Expedited Generator Interconnection Agreement, TCA or other applicable service agreement. The Transmission Provider shall refund milestone cash payments exceeding the initial payment requirement to the Interconnection Customer upon Interconnection Customer's request with Transmission Owner's consent, within forty-five (45) Calendar Days of the effective date of the Generator Interconnection Agreement. In the event the milestone payments are less than the initial payment requirement, the Interconnection Customer shall be responsible for the remaining payment to the Transmission Owner.

In the event that the Interconnection Customer withdraws and terminates its EGIA after execution of the EGIA by all parties or after EGIA is filed unexecuted the Interconnection Customer will be liable for the Network Upgrades documented in the EGIA and corresponding FCAs or MPFCAs, including those Network Upgrades arising from the Affected System Study process.

**3.9.7 Transfer of Ownership of Expedited Resource Addition Study request.**

An Interconnection Customer participating in the Expedited Resource Addition Study may transfer its Interconnection Request to another entity only after execution of the EGIA or filing the EGIA unexecuted. The new entity must maintain the eligibility requirements per Sections 3.3.1 and 3.9.1.

**3.9.8 Modifications of Expedited Resource Addition Study request.**

After entering the Expedited Resource Addition Study as defined in Section 3.9.3, no changes to the In-Service Date or Commercial Operation Date of the Generating Facility is permitted via section 4.4.4. An ERAS Interconnection Request that is deferred to the next available ERAS Quarterly Study Period will be allowed to extend its In-Service Date or Commercial Operation Date to be no more than three calendar years from the kickoff of the ERAS Quarterly Study Period in which its application is studied. At the completion of the Expedited Resource Addition Study, the Commercial Operation Date and In-Service Date shall be set forth in the EGIA.

**3.9.9 Sunset of Expedited Resource Addition Study process.**

Following the effective date of the Tariff revisions accepted in Commission Docket No. ER25-\_\_\_\_, the Transmission Provider will terminate the ERAS process at the earlier of the completion of sixty-eight ERAS Interconnection Request studies or August 31, 2027. In the event the Transmission Provider determines the sunset date should be extended, the Transmission Provider shall submit an additional filing to the Commission pursuant to Section 205 of the Federal Power Act seeking such later sunset date. Upon termination of ERAS, the Transmission Provider will no longer accept new ERAS Interconnection Requests. Any ERAS Interconnection Requests accepted but cannot be studied due to the sunset of the ERAS process will automatically move to the standard Definitive Planning Phase queue unless the customer chooses to withdraw. If deemed ineligible for the ERAS process, the project will forfeit its Non-



Refundable Deposit D1.

## **SECTION 4. QUEUE POSITION.**

### **4.1 General.**

Transmission Provider shall assign a Queue Position based upon the date and time of receipt of the valid Interconnection Request; provided that, if the sole reason an Interconnection Request is not valid is the lack of required information on the application form, and Interconnection Customer or MHVDC Connection Customer provides such information in accordance with Section 3.3.1, then Transmission Provider shall assign Interconnection Customer or MHVDC Connection Customer a Queue Position based on the date the application was deemed complete by Transmission Provider. Moving a Point of Interconnection or Point of Connection shall result in a reassignment of the Queue Position except as otherwise noted in Section 4.4.

The Definitive Planning Phase Queue Position will be established based upon the date Interconnection Customer or MHVDC Connection Customer satisfies all of the requirements of Section 7.2 to enter the Definitive Planning Phase. The Definitive Planning Phase Queue Position will also be used for the determination of cost responsibility for the facilities necessary to accommodate the Interconnection Request, except for Group Studies. The determination of cost responsibility for common facilities necessary to accommodate two or more Interconnection Requests participating in a Group Study may depend on factors other than the Definitive Planning Phase Queue Position. A higher queued Interconnection Request is one that has been placed “earlier” in the queue in relation to another Interconnection Request that is lower queued. All Interconnection Requests within the same Definitive Planning Phase cycle shall have equal priority (i.e. similarly queued).

Transmission Provider may perform an Interconnection Study out of queue order at any time to the extent warranted by Good Utility Practice based upon: 1) the electrical

remoteness of the Generating Facility or MHVDC Transmission Line or 2) the request of Interconnection Customer or MHVDC Connection Customer, if Transmission Provider concurs with the request and has the resources to do the study provided Interconnection Customer or MHVDC Connection Customer accepts the financial risk that study resources may be reassigned, that its Interconnection Request is subject to review and restudy in queue order, and that its GIA or TCA may be amended to reflect a reassignment of upgrades as Interconnection Studies of higher queued Interconnection Requests are completed. Interconnection Customer or MHVDC Connection Customer may request the Transmission Provider's concurrence 1) in connection with a resource solicitation process, 2) when Interconnection Customer or MHVDC Connection Customer proposes to replace equipment due to catastrophic failure and such replacement is determined to be Qualified Change, and 3) for other reasons specific to Interconnection Customer or MHVDC Connection Customer.

#### **4.1.1 Limitation on queue study cycle size**

**4.1.1.1** The Transmission Provider will determine the maximum size of each Definitive Planning Phase study cycle (in MW) on a study region basis. The limit will be based on fifty-percent (50%) of the subregional non-coincident peak load in the summer peak study model. Projects with approved exemptions as noted in Sections 4.1.2.1 through 4.1.2.3 shall have priority in each Definitive Planning Phase study cycle limit.

The Transmission Provider shall post the MW value determined for a study group in accordance with this Section on the Transmission Provider's website at least ten (10) Business Days prior to the application deadline of that Definitive Planning study cycle.

**4.1.1.2** The Interconnection Request shall be included in the Definitive Planning Phase study cycle based on the earliest date and time of submission of Interconnection Requests until the maximum MW cap for the applicable

study region is met. Five (5) Business Days after the applicable maximum MW limit has been met, the Transmission Provider shall post the initial list of Interconnection Requests included in the study group for the upcoming study cycle on Transmission Provider's website.

**4.1.1.3** No later than thirty (30) Calendar Days prior to the scheduled DPP Phase 1 kickoff date for a Definitive Planning Phase study cycle, the Transmission Provider shall replace any Interconnection Requests that have been withdrawn from such Definitive Planning Phase study cycle after any applicable cure period with Interconnection Requests previously submitted but determined to exceed the maximum Definitive Planning Phase study cycle limit for that study region determined pursuant to section 4.1.1.1 of this GIP. The Transmission Provider shall select Interconnection Requests to replace withdrawn Interconnection Requests in the same study region based on the earliest date and time stamp of such Interconnection Requests until the maximum MW cap is met. The Transmission Provider shall notify such Interconnection Customers that their Interconnection Requests will be included in the study group no later than thirty (30) Calendar Days prior to the scheduled DPP Phase 1 kickoff date for a Definitive Planning Phase study cycle.

**4.1.1.4** Projects that have submitted a complete application and required deposits and milestone payments that were not included in a given DPP study cycle will maintain their position, as long as the application remains valid, to enter the next available study cycle.

**4.1.1.5** Upon conclusion of the third DPP study cycle following the effective date of the Tariff revisions accepted in Commission Docket No. ER25-\_\_\_\_, the Transmission Provider will conduct a review of the effectiveness of the limitation on queue study cycle size with stakeholders and determine

whether to terminate or modify the queue size limitation. In the event the Transmission Provider determines not to file modifications or a termination of the queue size limitation, the Transmission Provider shall submit an informational report to the Commission describing the results of this review upon completion of the stakeholder process.

**4.1.2** A valid Interconnection Request submitted for a DPP study cycle to which the provisions of Section 4.1.1 of this GIP apply, shall be included in such study cycle up to, but not to exceed, the limit, if the Transmission Provider receives documentation included with Interconnection Request demonstrating that one of the following exemptions applies to such Interconnection Request:

**4.1.2.1** The Interconnection Request seeks to convert ERIS service previously granted to an Existing Generating Facility to NRIS for the same Existing Generating Facility without requesting any additional increase in the service levels.

**4.1.2.2** The Interconnection Request seeks to add incremental new service to a Replacement Generating Facility that has an effective GIA.

**4.1.2.3** The Interconnection Request is for a Generating Facility that has completed the requirements of this GIP, including the requirements of Section 7.9.1, to request a Provisional Generator Interconnection Agreement (PGIA). In the event that an Interconnection Customer or MHVDC Connection Customer withdraws its requested PGIA after the thirty (30) Calendar Day timeline as noted in Section 4.1.1.3, then the Interconnection Request associated with that requested PGIA shall be withdrawn. The Interconnection Request shall also forfeit milestones in accordance with Section 7.9.3.

Transmission Provider may include the types of documentation required to demonstrate that one of the foregoing exemptions applies in the Generator Interconnection Business Practices Manual.

#### **4.2 Group Study Organization of Interconnection Studies.**

Interconnection System Impact Studies and Interconnection Facilities Studies may be performed in a Group Study format, whenever applicable, in the Definitive Planning Phase, except when a particular Interconnection Request is sufficiently electrically remote from others that it cannot reasonably be grouped with other Interconnection Requests. Interconnection Requests for both ER Interconnection Service and NR Interconnection Service may be part of a Group Study at the option of Transmission Provider. An Interconnection Request's inclusion in a Group Study will not relieve Transmission Provider from meeting the timelines provided in the GIP.

Grouping shall be implemented on the basis of electrical proximity. Transmission Provider may elect to perform Group Studies: (i) in connection with a resource solicitation process with the concurrence of Transmission Provider; (ii) when a coordinated study with an Affected System Operator will be performed that involve Interconnection Requests in the generator interconnection queue of Transmission Provider and of the Affected System Operator; (iii) to identify Common Use Upgrades; or (iv) at the request of a group of affected Interconnection Customers or MHVDC Connection Customers.

If item (i) above applies and Transmission Owner concurs, the solicitor must (a) be authorized by Interconnection Customers participating in the solicitation to act as the agent for all the Interconnection Requests submitted by Interconnection Customers, (b) maintain valid Interconnection Requests, (c) submit all Interconnection Requests at the same time, (d) submit a reasonable number of study portfolios (*i.e.*, a mixture of projects meeting the requirements of the solicitation that are studied in parallel), and (e) select one portfolio prior to the start of the Interconnection Facilities

Study.

Interconnection Requests included in a Group Study related to a resource solicitation process are subject to study according to their Definitive Planning Phase Queue Position in the process. Interconnection Requests for projects that are not included in a Group Study related to a resource solicitation process are subject to study according to their Definitive Planning Phase Queue Position outside the process in accordance with the provision of the GIP, and such studies may not be delayed as a result of the resource solicitation process. An Interconnection Customer may request that its Interconnection Request be included in a Group Study related to a resource solicitation process without having to abandon the existing Definitive Planning Phase Queue Position for such Interconnection Request. Once the solicitor rejects a project in the resource solicitation process, the Interconnection Request associated with the rejected project loses the Definitive Planning Phase Queue Position it held as part of the resource solicitation process. An Interconnection Customer that participates in a Group Study related to a resource solicitation process may at any time for the same project submit a separate Interconnection Request that is not included in the Group Study, provided, however, that Interconnection Customer shall be responsible for all Interconnection Study costs associated with its non-solicitation-related Interconnection Request in addition to any costs associated with Interconnection Customer's bid into the resource solicitation. When the solicitor selects a project in the resource solicitation process, Interconnection Customer may no longer maintain more than one Definitive Planning Phase Queue Position for the selected project. Interconnection System Impact Studies performed as Group Studies shall be conducted in such a manner to ensure the efficient implementation of the applicable regional transmission expansion plan in light of the Transmission System's capabilities at the time of each study.

#### **4.3 Transferability of Queue Position.**

An Interconnection Customer or MHVDC Connection Customer may transfer either of

its queue positions to another entity only if such entity acquires the specific Generating Facility or MHVDC Transmission Line identified in the Interconnection Request and the Point of Interconnection or Point of Connection does not change.

#### **4.4 Modifications.**

Interconnection Customer or MHVDC Connection Customer shall submit to Transmission Provider modifications to any information provided in the Interconnection Request in the manner specified by the Generator Interconnection Business Practices Manual (BPM-015). Interconnection Customer or MHVDC Connection Customer shall retain its Queue Position if the modifications proposed by Interconnection Customer or MHVDC Connection Customer are in accordance with Sections 4.4.1 or 4.4.4. Notwithstanding any modifications to information provided in the Interconnection Request, the applicable timing requirements of Section 7.2 to return study agreements and obligation to provide study deposits will not change.

Notwithstanding the above, during the course and prior to the completion of the Interconnection Studies, Interconnection Customer or MHVDC Connection Customer, Transmission Owner or Transmission Provider may identify changes to the planned interconnection that may improve the costs and benefits (including reliability) of the interconnection, and the ability of the proposed change to accommodate the Interconnection Request. If the Interconnection Customer is requesting to share Interconnection Customer Interconnection Facilities as part of the proposed change, the Interconnection Customer shall submit a consent agreement that meets the requirements of Section 3.3.1.4 along with the identification of changes to the planned interconnection. To the extent the identified changes are acceptable to Transmission Provider, Transmission Owner and Interconnection Customer or MHVDC Connection Customer, such acceptance not to be unreasonably withheld; Transmission Provider shall modify the Point of Interconnection or Point of Connection and/or configuration in accordance with such changes and proceed with any required Interconnection Studies. Changes to the Point of Interconnection or Point of Connection requested by Interconnection Customer

or MHVDC Connection Customer during the Definitive Planning Phase, except as described in this paragraph, will result in the Interconnection Request having to be revalidated according to the procedures in Section 3.3.1, and a new Definitive Planning Phase Queue Position assigned in accordance with the procedures in Section 4.1.

**4.4.1** During the Definitive Planning Phase and prior to the issuance of draft GIA, the modifications permitted shall include: (a) a change in the technical parameters associated with the Generating Facility or MHVDC Connection Customer technology other than a Permissible Technological Advancement; (b) a change to the Point of Interconnection or Point of Connection permitted under Section 4.4; and (c) a Permissible Technological Advancement for the Generating Facility or MHVDC Connection Customer. For such permitted modification proposed by Interconnection Customer or MHVDC Connection Customer pursuant to 4.4.1(a) or 4.4.1(b), Interconnection Customer or MHVDC Connection Customer shall submit a detailed analysis demonstrating why they believe the change is not a Material Modification. Transmission Provider must review such analysis and will determine, in its discretion, if the proposed modification is a Material Modification. In the absence of such analysis, the modification shall be deemed a Material Modification. Section 4.4.1.1 specifies a separate technological change procedure including the requisite information and process that will be followed to assess whether the Interconnection Customer's proposed technological advancement under Section 4.4.1(c) is a Material Modification. Section 1 contains a definition of Permissible Technological Advancement.

**4.4.1.1 Technological Change Procedure.**

For permitted modification proposed by Interconnection Customer or MHVDC Connection Customer, Interconnection Customer or MHVDC Connection Customer shall submit a technological advancement request demonstrating that the proposed change is a Permissible Technological Advancement or submitting a



detailed analysis to demonstrate that the proposed change is not a Material Modification. Such request shall include a description of the proposed change together with updated modeling data (power flow and stability), updated technical data as outlined in Attachment A of Appendix 1 of this GIP and a study deposit of \$10,000.00. The detailed analysis to demonstrate that the proposed change is not a Material Modification shall include steady-state (thermal/voltage), reactive power, short circuit/fault duty, and stability analyses unless the Transmission Provider deems one or more of these not necessary based on the nature of the change requested. The following criteria will be used to determine whether the proposed change is a Material Modification:

- a. Any change in expected output of the Generating Facility that is higher than what was studied in the interconnection process unless a control equipment is employed to limit the injection at the POI to the level of Interconnection Service originally requested;
- b. An increase in short circuit current that degrades transmission system reliability;
- c. Angular stability performance and dynamic response that degrades transmission system reliability;
- d. Violation of steady-state thermal or voltage limits caused by the planned change utilizing the same criteria consistent with the Interconnection System Impact Study.

Within 30 calendar days of receipt of a technological advancement request containing the information and security deposit required by Section 4.4.1.1, the Transmission Provider shall review such request and supporting documentation to determine if the proposed change is a Permissible Technological Advancement or otherwise not a Material Modification and communicate the results together with a written explanation to the Interconnection Customer of the Transmission

Provider's determination. In the event that the Transmission Provider determines that the proposed change is a Material Modification, the Interconnection Customer or MHVDC Connection Customer shall have the option of: (i) withdrawing such technological advancement request and retaining its current queue position; or (ii) resubmitting its proposed Generating Facility as a new Interconnection Request.

- 4.4.2** After entering the Definitive Planning Phase as defined in Section 7.2, any modifications to the type of Interconnection Service selected by Interconnection Customer in the Interconnection Request, other than a change from NR Interconnection Service to ER Interconnection Service pursuant to Section 3.2 of this GIP, shall be deemed a Material Modification.
- 4.4.3** After entering the Definitive Planning Phase as defined in Section 7.2, any modification to the size of the Interconnection Request, other than as allowed in Section 4.4.5, Section 7.3.1.4, or Section 7.3.2.4 of this GIP, shall be deemed a Material Modification.
- 4.4.4** After entering the Definitive Planning Phase as defined in Section 7.2, any extension by Interconnection Customer or MHVDC Connection Customer to the original In-Service Date or Commercial Operation Date of the Generating Facility or MHVDC Transmission Line in the original Interconnection Request shall be deemed a Material Modification except that the Transmission Provider will not unreasonably withhold approval of an Interconnection Customer's or MHVDC Connection Customer's proposed change in the original In-Service Date or Commercial Operation Date of the Generating Facility or MHVDC Transmission Line if that change is the result of either (a) a change in milestones by another party to the GIA or TCA, (b) a change in a higher queued Interconnection Request, (c) delays in the completion of the Definitive Planning Phase Studies, or (d) Interconnection Customer demonstrates that engineering, permitting and

construction of the Generating Facility will take longer than the process window for the Transmission Provider's Definitive Planning Phase period. Where such exceptions apply, extensions to the Commercial Operation Date or In-Service Date shall not exceed three years beyond the original Commercial Operation Date or In-Service Date in the Interconnection Request. A change to either of these dates that exceeds three years from the date in the original Interconnection Request is a Material Modification. At the completion of the Definitive Planning Phase, the specified Commercial Operation Date and In-Service Date shall be set forth in Appendix B of a GIA. Consistent with Article 2.3.1 of the GIA, once that GIA is executed or filed unexecuted, if the Generating Facility fails to reach Commercial Operation by the specified Commercial Operation Date set forth in the GIA, such specified Commercial Operation Date as set forth in the GIA may be extended by Interconnection Customer for a period up to three (3) consecutive years, after which Transmission Provider shall terminate the GIA if the Generating Facility has still failed to reach Commercial Operation. Notwithstanding the foregoing, in the limited circumstance that Transmission Owner Interconnection Facilities, Network Upgrades, or System Protection Facilities necessary to enable Trial Operation of a Generating Facility has an in-service date that is farther out than the Commercial Operation Date permitted under this Section 4.4.4 or, has an in-service date that does not allow for a one-hundred eighty (180) Calendar Day Trial Operation period, Transmission Provider shall only terminate the GIA for failure to achieve Commercial Operation by a Commercial Operation Date one-hundred eighty (180) Calendar Days after the in-service date of the Transmission Owner Interconnection Facilities, Network Upgrades, or System Protection Facilities necessary for Trial Operation.

#### **4.4.4.1 Transmission Owner In-Service Date extension.**

Prior to end of GIA negotiation and in the limited circumstance that a Transmission Owner determines it cannot complete Transmission Owner

Interconnection Facilities, Network Upgrades, or System Protection Facilities specified in the GIA using Reasonable Efforts by the In-Service Date permitted under this Section 4.4.4, the specified In-Service Date may be extended at the Transmission Owner's request for a period up to two (2) consecutive years and specified in the GIA. This provision does not alter Interconnection Customer's Commercial Operation Date requirements of this Section 4.4.4 or other provisions set forth in Appendix 6 of these GIP regarding Commercial Operation Date or In-Service Date. The Interconnection Customer is expected to construct facilities in parallel with the Transmission Owner's construction activities.

- 4.4.5** After entering the Definitive Planning Phase, any modification to the fuel source designated in the Interconnection Request, other than a modification to reduce the number of fuel source(s) of an Interconnection Request with two or more fuel sources before the kick-off of the Definitive Planning Phase I, shall be deemed a Material Modification.

## **SECTION 5. PROCEDURES FOR INTERCONNECTION REQUESTS SUBMITTED PRIOR TO EFFECTIVE DATE OF GENERATOR INTERCONNECTION PROCEDURES.**

### **5.1 Queue Position for Pending Requests.**

- 5.1.1** All Interconnection Requests that have entered a Definitive Planning Phase and the Definitive Planning Phase System Impact Study has been completed prior to January 4, 2017 will complete the Definitive Planning Phase pursuant to the approved GIP in effect on January 3, 2017. The August 2015 Definitive Planning Phase cycle shall be completed pursuant to the approved GIP in effect on January 3, 2017.

- 5.1.2** All Interconnection Requests that have entered a Definitive Planning Phase and the System Impact Study has not been started, or started and not completed, as of January 4, 2017 will be required to conform to Section 7 of this GIP excluding Section 7.2 “Eligibility for the Definitive Planning Phase” and the Site Control provisions found in Section 7.3.2.4 so long as the Interconnection Customer has previously complied with the then existing Section 8.2 “Eligibility for the Definitive Planning Phase.” All study deposits will be applied to studies performed under this transition plan and M2 milestone amounts previously paid will satisfy the M2 milestone requirement of Section 7.2. These projects will then follow all other sections of these Generator Interconnection Procedures in effect as of January 4, 2017.
- 5.1.3** All Interconnection Requests that have been received but have not had an M2 milestone calculated as of January 4, 2017, and have not met the requirements of Section 5.1.4, will be required to conform to Section 7 of these GIPs and will then follow all other sections of these Generator Interconnection Procedures in effect as of January 4, 2017.
- 5.1.4** All Interconnection Requests that are in the System Planning and Analysis Phase of the GIPs in effect prior to January 4, 2017 may pay their M2 milestone payment prior to January 4, 2017 and shall be treated pursuant to section 5.1.2. Interconnection Requests that are in the System Planning and Analysis Phase prior to the effective date of these GIPs that have not paid an M2 milestone payment prior to January 4, 2017 shall be treated pursuant to section 5.1.3. Interconnection Requests that are in the System Planning and Analysis Phase may remain in the System Planning and Analysis Phase until 45 Calendar Days prior to the start of the first cycle under these GIPs which begins August 1, 2017. MISO shall deem withdrawn any Interconnection Requests that are in the System Planning and Analysis Phase that have not made their M2 milestone payment at

least 45 Calendar Days prior to the start of the first cycle under these GIPs.

Notwithstanding the foregoing, any request for HVDC facilities listed as being in the System Planning and Analysis Phase as of June 16, 2017 shall be deemed transferred into the Pre-Queue Phase. Furthermore, any MHVDC projects in the Pre-Queue Phase as of the effective date of the MHCP shall be deemed transferred to the MHCP, as set forth in Section 4 of the MHCP.

## **5.2 Transition Period.**

An Interconnection Customer of a new transmission owning member of Transmission Provider shall transition to the revised GIP within a reasonable period of time not to exceed ninety (90) Calendar Days from the date when this GIP becomes applicable to that transmission owning member.

## **5.3 New Transmission Provider.**

If Transmission Provider transfers control of its Transmission System to a successor Transmission Provider during the period when an Interconnection Request is pending, the original Transmission Provider shall transfer to the successor Transmission Provider any amount of the deposit or payment with interest thereon that exceeds the cost that it incurred to evaluate the request for interconnection. Any difference between such net amount and the deposit or payment required by the GIP shall be paid by or refunded to Interconnection Customer, as appropriate. The original Transmission Provider shall coordinate with the successor Transmission Provider to complete any Interconnection Study, as appropriate, that the original Transmission Provider has begun but has not completed. If Transmission Provider has tendered a draft GIA to Interconnection Customer but Interconnection Customer has not either executed the GIA or requested the filing of an unexecuted GIA with FERC, unless otherwise provided, Interconnection Customer must complete negotiations with the successor Transmission Provider.

## **5.4 Transition to Revised Scope of DPP Phase I Studies.**

With the exception of this provision, the Tariff revisions accepted in Docket Nos. ER18-

2049-000 and -001 shall not apply to any queue cycle(s) for which the Definitive Planning Phase Preliminary System Impact Study has started prior to September 19, 2018.

**5.5 Transitional Notice Requirements for Generating Facility Replacement.**

All requests for Replacement Generating Facility that are submitted to the Transmission Provider within 365 Calendar Days after May 16, 2019 shall have a date of cessation of operation for the Existing Generating Facility that is not earlier than May 16, 2021.

**5.6 Transition to Revised Milestone Requirements Accepted in Docket No. ER20-41.**

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase was prior to April 29, 2019 shall be required to adhere to milestone requirements in GIP in effect prior to December 4, 2019.

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase was on April 29, 2019 shall be required to adhere to the revised milestone requirements accepted in Docket No. ER20-41, but shall not be subject to the M2 refund provisions in Section 7.6.2.1 of this GIP. All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase was on April 29, 2019 shall be subject to M2 refund provisions in effect prior to December 4, 2019.

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is after April 29, 2019 shall be required to adhere to the revised milestone requirements accepted in Docket No. ER20-41.

**5.7 Transition to Revised Site Control Requirements Accepted in Docket No. ER20-41.**

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase was prior to April 29, 2019 shall be required to adhere to Site Control

requirements in GIP in effect prior to December 4, 2019.

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase was on April 29, 2019 shall be required to provide proof of Site Control for the Generation Facility by the end of Interconnection Customer Decision Point II in accordance with the timing requirements established in Section 7.2.2.1. Such Interconnection Requests shall not be required to provide proof of Site Control for the Generating Facility ninety (90) Calendar Days prior to the start of DPP Phase I in accordance with the timing requirements established in Section 7.2.1. For such requests, the proof of Site Control for all applicable Interconnection Customer's Interconnection Facilities, and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), the Transmission Owner's Interconnection Facilities and Network Upgrades at the POI shall be due in accordance with the terms of Sections 7.2.2.1 and 7.2.2.2.

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is after April 29, 2019 will be subject to the Site Control requirements as set forth in Section 7.2.

## **5.8 Transition to Self-Fund Deadline Accepted in Docket No. ER20-2632.**

For all Network Upgrades and System Protection Facilities that were identified in a Revised System Impact Study that completed prior to November 5, 2020 and for which the Final System Impact Study was not completed as of November 5, 2020, the Transmission Owner shall make an election as to whether the Transmission Owner intends to self-fund each specific Network Upgrade and System Protection Facility identified in the Revised System Impact Study. Transmission Owner shall make its election prior to the completion of the Final System Impact Study.

For all Network Upgrades and System Protection Facilities that were identified in a Final



System Impact Study that completed prior to November 5, 2020 and for which the negotiation period for the GIA was not completed as of November 5, 2020, the Transmission Owner may make an election as to whether the Transmission Owner intends to self-fund each specific Network Upgrade and System Protection Facility prior to the completion of the GIA negotiation period.

**5.9 Transition to revised DPP schedule in Docket No. ER22-661.**

Interconnection Requests for which Transmission Provider started the DPP Phase III Final System Impact Study before March 15, 2022 will be subject to the Tariff requirements in effect prior to March 15, 2022. Interconnection Requests for which the DPP Phase III Final System Impact Study has not started as of March 15, 2022 will be subject to the revised Tariff accepted in Docket No. ER22-661.

**5.10 Transition to DPP revisions in Docket No. ER24-\_\_\_\_.**

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is on or after January 22, 2024 will be subject to the revised Tariff requirements accepted in Docket Nos. ER24-\_\_\_\_ and ER24-\_\_\_\_. All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is prior to January 22, 2024 will not be subject to the revised Tariff requirements accepted in Docket Nos. ER24-\_\_\_\_ and ER24-\_\_\_\_.

**5.11 Transition to JTIQ Process.**

Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is after the date that the Transmission Provider and SPP's Boards have approved a JTIQ Portfolio shall be subject to the JTIQ process set forth in Section 9.4.2 of Rate Schedule 6 (MISO-SPP JOA) and the JTIQ provisions of these GIP.

**5.12 Transition to DPP revisions in Docket No. ER25-\_\_\_\_.**

All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is on or after January 31, 2025, will be subject to the revised Tariff requirements accepted in Docket No. ER25-\_\_\_\_. All Interconnection Requests for which the application deadline to enter the Definitive Planning Phase is prior to January 31, 2025, will not be subject to the revised Tariff requirements accepted in Docket No. ER25-\_\_\_\_.

### **5.13 Transition to ERAS Process.**

All requests for the Expedited Resource Addition Study that are submitted to the Transmission Provider after August 6, 2025 will be subject to the revised Tariff requirements accepted in Docket No. ER25-\_\_\_\_.

## **SECTION 6. PRE-QUEUE PHASE.**

### **6.1 Pre-Queue Customer Education**

Transmission Provider will be available for consultation with Interconnection Customer to discuss potential Interconnection Requests for Generating Facilities or study and processing of HVDC facilities. Such discussions may include, but are not limited to: (i) general facility loadings; (ii) general instability issues; (iii) general short circuit issues; (iv) general voltage issues including voltage and frequency ride-through capabilities for the Generating Facility; (v) general power quality issues including voltage flicker, harmonics; (vi) general reliability issues as may be reasonably required to accomplish the purpose of the meeting; (vii) estimated timing of Interconnection Request proceeding to the Definitive Planning Phase; (viii) estimated in-service date for the request; and (ix) any process related questions.

**6.2 Interim Treatment of HVDC Facilities in Pre-Queue Phase:** All requests for HVDC facilities deemed transferred into the Pre-Queue Phase pursuant to Section 5.1.4 of this GIP or which otherwise are permitted to enter the Pre-Queue Phase shall not be eligible to proceed to the Definitive Planning Phase until such time as additional procedures for processing such facilities are implemented.

**6.3 Small Generating Facility Pre-Application Report.**

**6.3.1** In addition to the information described in section 6.1, which may be provided in response to an informal request, an Interconnection Customer proposing to interconnect its Small Generating Facility may submit a formal written request form along with a non-refundable fee of \$300 for a pre-application report on a proposed project at a specific site. The Transmission Provider shall provide the pre-application data described in section 6.3.2 to the Interconnection Customer within twenty (20) Business Days of receipt of the completed request form and payment of the \$300 fee. Should the Transmission Provider notify the Interconnection Customer that more than twenty (20) Business Days are necessary to provide the pre-application data described in section 6.3.2 below because the information is not readily available to the Transmission Provider, the Interconnection Customer shall notify the Transmission Provider that it desires more complete information and waives the twenty (20) Business Day timeline. The pre-application report produced by the Transmission Provider is non-binding, does not confer any rights, and the Interconnection Customer must still successfully apply to interconnect to the Transmission Provider's system. The written pre-application report request form shall include the information in sections 6.3.1.1 through 6.3.1.8 below to clearly and sufficiently identify the location of the proposed Point of Interconnection.

- 6.3.1.1** Project contact information, including name, address, phone number, and email address.
- 6.3.1.2** Project location (street address with nearby cross streets and town)
- 6.3.1.3** Meter number, pole number, or other equivalent information identifying proposed Point of Interconnection, if available.
- 6.3.1.4** Generator Type (e.g., solar, wind, combined heat and power, etc.)
- 6.3.1.5** Size (alternating current kW)
- 6.3.1.6** Single or three phase generator configuration
- 6.3.1.7** Stand-alone generator (no onsite load, not including station service – Yes or No?)
- 6.3.1.8** Is new service requested? Yes or No? If there is existing service, include the customer account number, site minimum and maximum current or proposed electric loads in kW (if available) and specify if the load is expected to change.

- 6.3.2** Using the information provided in the pre-application report request form in section 6.3.1, the Transmission Provider will identify the substation/area bus, bank or circuit likely to serve the proposed Point of Interconnection. This selection by the Transmission Provider does not necessarily indicate, after application of the screens and/or study, that this would be the circuit the project ultimately connects to. The Interconnection Customer must request additional pre-application reports

if information about multiple Points of Interconnection is requested.

Subject to section 6.3.3, the pre-application report will include the following information:

- 6.3.2.1** Total capacity (in MW) of substation/area bus, bank or circuit based on normal or operating ratings likely to serve the proposed Point of Interconnection.
- 6.3.2.2** Existing aggregate generation capacity (in MW) interconnected to a substation/area bus, bank or circuit (i.e., amount of generation online) likely to serve the proposed Point of Interconnection.
- 6.3.2.3** Aggregate queued generation capacity (in MW) for a substation/area bus, bank or circuit (i.e., amount of generation in the queue) likely to serve the proposed Point of Interconnection.
- 6.3.2.4** Available capacity (in MW) of substation/area bus or bank and circuit likely to serve the proposed Point of Interconnection (i.e., total capacity less the sum of existing aggregate generation capacity and aggregate queued generation capacity).
- 6.3.2.5** Substation nominal distribution voltage and/or transmission nominal voltage if applicable.
- 6.3.2.6** Nominal distribution circuit voltage at the proposed Point of Interconnection.
- 6.3.2.7** Approximate circuit distance between the proposed Point of Interconnection and the substation.

**6.3.2.8** Relevant line section(s) actual or estimated peak load and minimum load data, including daytime minimum load as described in section 14.4.4.1.1 below and absolute minimum load, when available.

**6.3.2.9** Number and rating of protective devices and number and type (standard, bi-directional) of voltage regulating devices between the proposed Point of Interconnection and the substation/area. Identify whether the substation has a load tap changer.

**6.3.2.10** Number of phases available at the proposed Point of Interconnection. If a single phase, distance from the three-phase circuit.

**6.3.2.11** Limiting conductor ratings from the proposed Point of Interconnection to the distribution substation.

**6.3.2.12** Whether the Point of Interconnection is located on a spot network, grid network, or radial supply.

**6.3.2.13** Based on the proposed Point of Interconnection, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks.

**6.3.3** The pre-application report need only include existing data. A pre-application report request does not obligate the Transmission Provider to conduct a study or other analysis of the proposed generator in the event that data is not readily available. If the Transmission Provider cannot complete all or some of a pre-application report due to lack of available

data, the Transmission Provider shall provide the Interconnection Customer with a pre-application report that includes the data that is available. The provision of information on “available capacity” pursuant to section 6.3.2.4 does not imply that an interconnection up to this level may be completed without impacts since there are many variables studied as part of the interconnection review process, and data provided in the pre-application report may become outdated at the time of the submission of the complete Interconnection Request. Notwithstanding any of the provisions of this section, the Transmission Provider shall, in good faith, include data in the pre-application report that represents the best available information at the time of reporting.

## **SECTION 7. DEFINITIVE PLANNING PHASE.**

### **7.1 Purpose of the Definitive Planning Phase.**

The Definitive Planning Phase is designed to identify Network Upgrades that will reliably and efficiently integrate the proposed generation, including through Injection Rights requested by MHVDC Connection Customer, into the Transmission Provider’s Transmission System. The Definitive Planning Phase will be composed of three distinct phases in which Interconnection System Impact Studies and Interconnection Facilities Studies will be performed.

#### **7.1.1 Screening Analysis Prior to Definitive Planning Phase I.**

Transmission Provider will perform an indicative non-binding screening analysis to identify potential thermal and voltage constraints and publish the results of that analysis for Interconnection Customers and MHVDC Connection Customers entering the Definitive Planning Phase at least fifteen (15) Calendar Days prior to the kick-off of the Definitive Planning Phase I. The Transmission Provider shall indicate with this screening analysis whether Interconnection Requests in the applicable DPP study

group are expected to be included in a JTIQ Participation Group based on available information. If the Interconnection Customer or MHVDC Connection Customer decides to withdraw its Interconnection Request before the start of the Definitive Planning Phase I, then the Transmission Provider will refund to Interconnection Customer or the MHVDC Connection Customer 100% of Definitive Planning Phase entry milestone (M2) and any remaining study deposits pursuant to Section 7.6.

## **7.2 Eligibility for the Definitive Planning Phase.**

The Interconnection Request shall enter the Definitive Planning Phase upon the Transmission Provider accepting the Interconnection Request as valid pursuant to Section 3.3.3 of this GIP after the Interconnection Customer or MHVDC Connection Customer has met the requirements of Section 3.3.1. The Definitive Planning Phase will start on a periodic basis, where an Interconnection Customer or MHVDC Connection Customer may elect to enter the next scheduled Definitive Planning Phase.

### **7.2.1 Requirements for Demonstrating Site Control for Generating Facility and Interconnection Facilities.**

Except as otherwise noted in Section 5.7, at the time of the submission of an Interconnection Request, the Interconnection Customer shall submit the following to the Transmission Provider:

- (i) Proof of Site Control for the Generating Facility demonstrating that the Interconnection Customer has obtained a right to develop the site, and that such Site Control:
  - (a) is exclusive to the specific project referenced in the Interconnection Request and the site meets the total resource-specific acreage requirements established in the Generator Interconnection Business Practices Manual; or



- (b) either is not exclusive to the specific project or includes less acreage than the standard resource-specific acreage requirements established in the Generator Interconnection Business Practice but is nonetheless sufficient to accommodate the final design of the Generating Facility, and account for any other projects that will utilize all or part of the same site; or
  - (c) A financial security in lieu of Site Control and supporting documentation demonstrating regulatory restrictions in accordance with Section 7.2.1.2 of this GIP.
- (ii) Reasonable evidence of Site Control, as described in the Generator Interconnection Business Practices Manual, for at least fifty percent (50%) of the mileage of the Generating Facility's Interconnection Facilities, or in lieu of Site Control for the Generating Facility's Interconnection Facilities, additional financial security in the amount of \$80,000 per line mile of right-of-way, on a straight line basis. Interconnection Customer's financial security provided in lieu of Site Control shall only be refunded once the Interconnection Customer satisfies the Site Control requirements or is withdrawn from the queue. The security can be provided in the form of cash or irrevocable letter of credit reasonably acceptable to Transmission Provider. Reasonable evidence of Site Control for one hundred percent (100%) of the mileage of the Generating Facility's Interconnection Facilities for the Expedited Resource Addition Study request must be received at the time the application is submitted. The financial security in lieu of Site Control for the Generating Facility's Interconnection Facilities will not be accepted for an Expedited Resource Addition Study request.

Any advancement or postponement to the DPP Phase I kickoff date made after the application deadline for such cycle shall not alter the deadline for submitting proof of Site Control.

Site Control for a Generating Facility and Interconnection Facility shall be demonstrated in accordance with Section 7.2.1.1 and Section 7.2.1.2 of this GIP.

All documentation establishing proof of Site Control under Sections 7.2.1 of this GIP shall be accompanied by a signed affidavit from an officer or from an agent of the Interconnection Customer stating either that the Interconnection Customer: (1) possesses Site Control in accordance with Section 7.2.1.1 of this GIP; or (2) is subject to regulatory restrictions that preclude Interconnection Customer from obtaining Site Control pursuant to Section 7.2.1.2 of this GIP. Such affidavit shall adhere to the form specified in Attachment E of Appendix 1 of Attachment X.

#### **7.2.1.1 Site Control Demonstration.**

In order to demonstrate Site Control for a Generating Facility and Interconnection Facilities, an Interconnection Customer must submit the following:

- (i) To demonstrate that an Interconnection Customer has Site Control in accordance with Section 7.2.1(i)(a) and 7.2.1(ii) of this GIP, a Geographic Information System (GIS) site plan map, data files, and documentation that shows the following information: (a) sufficient land to meet the acreage requirements set forth in the Generator Interconnection Business Practices Manual; (b) boundary for the proposed project indicating the boundaries of the Interconnection Customer's leasehold/ownership interests for the

site; and (c) the proposed location of each of the following: the Collector Substation, the Point of Interconnection, and the Interconnection Facilities based on the Point of Interconnection.

- (ii) To demonstrate that an Interconnection Customer has obtained Site Control in accordance in accordance with Section 7.2.1(i)(b) of this GIP, Interconnection Customer must submit a Geographic Information System (GIS) site plan map, data files, and documentation that meets the requirements specified in Section 7.2.1.1(i)(b) and (c) and show the following additional information:

- (a) Sufficient land to accommodate the proposed Generating Facility based on the location and approximate land utilization requirements of proposed electrical devices (*i.e.*, turbine, solar panel, battery storage, inverter), local spacing and setback requirements, and the proposed location of the feeder routes to the Collector Substation; and

- (b) In the event that Interconnection Customer elects to share a site with other projects in accordance with Section 7.2.1(i)(b) of this GIP, Interconnection Customer shall include with its Interconnection Request documentation demonstrating that the project referenced in the Interconnection Request is concurrently feasible with the development of any other projects that will share Site Control over all or a portion of the same site. Such proof of concurrent feasibility shall include:

- (1) an identification of any other Interconnection Requests or projects that will share all or a portion of the same site;

and

(2) identification of the proposed location and space utilization of all projects that will share the site together with any related technical information specified in the Generator Interconnection Business Practices Manual to enable the Transmission Provider to determine that development of the project referenced in the submitted Interconnection Request is not inconsistent with development of any of the other projects that will share all or a portion of the same site.

Any GIS site plan map, and data files submitted in accordance with this Section 7.2.1.1 must be consistent with the modeling data submitted with the Interconnection Request.

#### **7.2.1.2 Financial Security in lieu of Site Control.**

If the Interconnection Customer is unable to obtain Site Control for its proposed Generating Facility as a result of regulatory restrictions, the Interconnection Customer shall provide a cash deposit in lieu of Site Control. In order to demonstrate regulatory restrictions, Interconnection Customer must submit: (i) a signed affidavit in accordance with the terms of Section 7.2.1 of this GIP indicating that Site Control is unobtainable due to regulatory requirements; (ii) documentation sufficiently describing and explaining the source of and effects of such regulatory restrictions, including a description of any conditions that must be met in order to satisfy the regulatory restrictions and the anticipated time by which the Interconnection Customer expects to satisfy the regulatory restrictions. The financial security provided in lieu of Site Control, as cash deposit or irrevocable letter of credit reasonably acceptable to Transmission

Provider, shall be \$10,000 per MW of new Interconnection Service requested, and at least \$500,000 but no more than \$2,000,000. In the event that Interconnection Customer needs to submit a financial security in lieu of Site Control as a result of regulatory restrictions, Interconnection Customer must provide proof of Site Control as soon as the Interconnection Customer satisfies the regulatory requirements described in the Interconnection Customer's affidavit and supporting documents. Interconnection Customer's financial security made in lieu of Site Control shall only be refunded once the Interconnection Customer satisfies the Site Control requirements in accordance with the terms of Sections 7.2.1(i), 7.2.1.1, and 7.2.2 of the GIP or is withdrawn from the queue.

#### **7.2.1.3 Transmission Provider Review of Site Control Sufficiency.**

The Transmission Provider shall review the Site Control documentation submitted by Interconnection Customer and determine whether the Interconnection Customer has satisfied the applicable Site Control requirements specified in Section 7.2.1, and 7.2.1.1 or 7.2.1.2 of this GIP, as applicable. Transmission Provider shall evaluate the Site Control documentation using sound engineering judgement and in a non-discriminatory manner. In addition, Transmission Provider shall adhere to any guidelines for such analysis as may be included in the Generator Interconnection Business Practices Manual.

In the event that the Transmission Provider determines that the Interconnection Customer does not demonstrate sufficient Site Control, Transmission Provider shall, consistent with Section 7.2.3(ii) of this GIP, provide a written explanation, including the technical reasons for such determination, to Interconnection Customer no later than sixty (60) Calendar Days from the Site Control submission deadline. Any such deficiencies shall be processed as set forth in Section 7.2.3(ii) of this GIP.

## **7.2.2 Continued Site Control for Generating Facilities; Site Control for Interconnection Facilities and Network Upgrades.**

### **7.2.2.1 Timing Requirements.**

- (i) After the start and prior to the end of Interconnection Customer Decision Point II, Interconnection Customer shall submit proof that Interconnection Customer continues to maintain Site Control for the Generating Facility in accordance with terms in Section 7.2.1.1 of this GIP. Regarding Interconnection Customer's Interconnection Facilities, in addition to the requirements specified in Section 7.2.1.ii of this GIP, the Interconnection Customer will be required to demonstrate fifty (50%) site control for the site on which a switchyard will be located, if requested by the Transmission Provider.
- (ii) Prior to conclusion of the Interconnection Customer's GIA execution period, as defined in Section 11 of this GIP, or within 180 days of GIA Effective Date with an approved exception by the Transmission Provider, Interconnection Customer shall submit proof of the following: (a) continued Site Control for the Generating Facility in accordance with terms in Section 7.2.1.1 of this GIP; and (b) 100% Site Control for all Interconnection Customer's Interconnection Facilities (including demonstration of switchyard site control if requested by the Transmission Provider), and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), the Transmission Owner's Interconnection Facilities and Network Upgrades at the POI that the Interconnection Customer will develop.

- (iii) To the extent there is any change in the POI as a result of the Interconnection Facilities Study started in DPP Phase II and completed in DPP Phase III, the Transmission Provider shall provide the Interconnection Customer additional time to procure land rights for the new Interconnection Customer's Interconnection Facilities and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), the Transmission Owner's Interconnection Facilities and Network Upgrades at the POI that the Interconnection Customer will develop. The amount of additional time awarded for this purpose shall be determined on a case-by-case basis and in accordance with Section 4.4 of this GIP.
- (iv) After the Interconnection Customer timely satisfies each of the requirements of this Section 7.2.2.1 and execution of the GIA, any changes made to the site layouts and interconnection facility routes shall not be construed as a failure to satisfy the requirements of this Section 7.2.2.1. In the event that the Interconnection Customer makes any modifications to the design of the site layouts or Interconnection Facility routes after execution of this GIA, Interconnection Customer shall: (1) immediately notify the Parties of such changes; and (2) provide to Transmission Provider evidence of continued Site Control for land sufficient to accommodate the changes in site layouts and/or Interconnection Facility routes in accordance with the terms of its GIA.

**7.2.2.2 Content Requirements -- Demonstrating Site Control for Applicable Interconnection Facilities and Network Upgrades.**

In order to demonstrate Site Control for the Interconnection Customer's

Interconnection Facilities and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), the Transmission Owner's Interconnection Facilities and Network Upgrades at the POI, Interconnection Customer shall submit a site plan map by the deadline specified in Section 7.2.2.1 of this GIP. Such site plan map shall demonstrate land that is sufficient to accommodate 50% of the total land acreage required for the Interconnection Customer's Interconnection Facilities for the proposed Generating Facility (including the total linear miles for the associated lead line required to electrically interconnect the Generating Facility to the Transmission System) and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), 50% of the total land acreage required for the Transmission Owner's Interconnection Facilities and the Network Upgrades at the POI for the proposed Generating Facility.

The Site Plan submitted in accordance with Section 7.2.2 of this GIP shall identify the specific locations within the site for which Site Control is achieved, and those locations for which Site Control is not yet achieved.

To the extent that the Interconnection Customer intends to locate its Interconnection Facilities in a public right of way, Interconnection Customer shall also submit proof of submission of all requisite state and local permits.

Demonstration of Site Control pursuant to this Section 7.2.2.2 shall conform to any technical and documentation requirements as may be specified in the Generator Interconnection Business Practice Manual.

### **7.2.3. Effect of Deficiencies in Demonstration of Site Control**



In the event that the Interconnection Customer fails to timely satisfy any of the requirements of Sections 7.2.1 and 7.2.2 including subsections, as applicable, Interconnection Customer's Interconnection Request shall be deemed withdrawn as set forth below:

- (i) If Interconnection Customer fails to submit all of the documentation and information required by the applicable deadline, Interconnection Customer's Interconnection Request shall immediately be deemed withdrawn as of the date of such deadline without any cure period. Transmission Provider shall provide Interconnection Customer with notice of such withdrawal.
- (ii) If Interconnection Customer has timely submitted all information required by an applicable deadline but the Transmission Provider determines after review that such submission does not meet the requirements of this GIP, Interconnection Customer's Interconnection Request shall be deemed withdrawn in accordance with Section 3.6 of this GIP.

### **7.3 Duration of the Definitive Planning Phase**

The Definitive Planning Phase will include the following three phases:

- (i) Definitive Planning Phase I
- (ii) Definitive Planning Phase II
- (iii) Definitive Planning Phase III.

#### **7.3.1 Definitive Planning Phase I**

The Definitive Planning Phase I will start on a defined, periodic basis.

The Definitive Planning Phase I will include the following steps:

- (i) Attachment X, Appendix 10 Model Review (10 Business Days)
- (ii) Preliminary System Impact Study (65 Calendar Days)

(iii) Interconnection Customer Decision Point I (15 Business Days)

In addition, Interconnection Customer may request that the Transmission Provider initiate the Interconnection Facilities Study during Definitive Planning Phase I. If Interconnection Customer, Transmission Owner and Transmission Provider agree that such Interconnection Facilities Study should be performed during Definitive Planning Phase I, Transmission Provider shall begin the Interconnection Facilities Study during Definitive Planning Phase I.

**7.3.1.1 Purpose**

The Definitive Planning Phase I is designed to provide Interconnection Customers or MHVDC Connection Customers with a preliminary detailed analysis of their Interconnection Request's impact on the reliability of the Transmission System. Prior to the completion of the Preliminary System Impact Study, each impacted Transmission Owner shall make a non-binding indication as to whether the Transmission Owner intends to self-fund each specific Network Upgrade and System Protection Facility identified in the Preliminary System Impact Study. A Transmission Owner's non-binding self-fund election will be included in the Preliminary System Impact Study. Upon completion of the Preliminary System Impact Study, Transmission Provider will provide a detailed reliability analysis, pursuant to Section 7.3.1.5, to each Interconnection Customer or MHVDC Connection Customer that has an Interconnection Request in the Definitive Planning Phase I. Upon receipt of the Preliminary System Impact Study, the Interconnection Customer can either proceed to Definitive Planning Phase II or withdraw its Interconnection Request pursuant to Section 7.3.1.4 of this Attachment X.

**7.3.1.2 Model Building and Point of Interconnection Review**

Before starting the preliminary Interconnection System Impact Study, Transmission Provider will distribute the study models to Interconnection Customer or MHVDC Connection Customer and Transmission Owner. Interconnection Customer and Transmission Owner may recommend changes to the study model by providing a completed Interconnection Study Model Review Form, Appendix 10 to the GIP within ten (10) Business Days after receipt of the study models. Proposed changes will be incorporated in the study models after mutual agreement between Interconnection Customer or MHVDC Connection Customer, Transmission Owner and Transmission Provider, such agreement not to be unreasonably withheld. Transmission Provider shall thereafter begin the Preliminary System Impact Study. Failure of Interconnection Customer or MHVDC Connection Customer to provide the completed Interconnection Study Model Review Form within ten (10) Business Days will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP.

#### **7.3.1.3 Scope of the Preliminary System Impact Study**

The Preliminary System Impact Study shall evaluate the impact of the proposed Interconnection Request(s) in the Definitive Planning Phase I on the reliability and safety of the Transmission System. The Preliminary System Impact Study will consider the Base Case as well as all generating and MHVDC facilities (and with respect to subpart iv below, any identified Network Upgrades, System Protection Facilities, Distribution Upgrades, Generator Upgrades, Common Use Upgrades, Shared Network Upgrades, or, if such upgrades have been determined, upgrades on Affected Systems, associated with such higher queued Interconnection Requests) that, on the date the Preliminary System Impact Study is commenced: (i) are interconnected to the Transmission System or Distribution System; (ii) are interconnected or queued to interconnect to

Affected Systems and may have an impact on the Interconnection Request; (iii) have Interconnection Request is part of the same group; and (iv) have executed a GIA or a pending unexecuted GIA on file at FERC or a TCA pursuant to which Transmission Provider has granted Injection Rights.

The Preliminary System Impact Study will consist of a power flow analysis. If Transmission Provider determines in accordance with Good Utility Practice that any voltage stability analysis is needed, the Preliminary System Impact Study may include voltage stability analysis. The Preliminary System Impact Study will also include analysis needed to determine the Generating Facility's reactive power capability required to maintain the Transmission Owner's voltage schedule and power factor criteria at the Point of Interconnection.

Determination of the full scope of the Preliminary System Impact Study in the Definitive Planning Phase I will be on a non-discriminatory basis per the methodologies listed in the Generator Interconnection Business Practices Manual. Transmission Provider shall use Reasonable Efforts to complete the Preliminary System Impact Study within sixty-five (65) Calendar Days.

The Preliminary System Impact Study will state the assumptions upon which it is based, state the results of the analyses, and provide the requirements or potential impediments to providing the requested Interconnection Service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. The Preliminary System Impact Study will provide a preliminary list of facilities (including Interconnection Facilities, Connection Facilities, Network Upgrades,

Generator Upgrades, Common Use Upgrades, and Shared Network Upgrades) that are required as a result of the Interconnection Request and a preliminary non-binding good faith estimate of cost and a non-binding good faith estimated time to construct. For purposes of determining necessary interconnection facilities and network upgrades, the Preliminary System Impact Study shall consider the level of Interconnection Service requested by the Interconnection Customer, unless otherwise required to study the full Generating Facility Capacity due to safety or reliability concerns.

At the request of Interconnection Customer or MHVDC Connection Customer, or at any time Transmission Provider determines that it will not meet the required time frame for completing the Preliminary System Impact Study, Transmission Provider shall notify Interconnection Customer or MHVDC Connection Customer regarding the following:

- (i) Schedule status of the Preliminary System Impact Study
- (ii) Estimated completion date and an explanation of the reasons why additional time is required.
- (iii) Revised cost estimate of study deposits with an explanation of the reasons why cost estimates were revised. Interconnection Customer or MHVDC Connection Customer shall then provide within thirty (30) Calendar Days of Transmission Provider's notice, an additional deposit equal to the difference between the initial and revised cost estimate. Failure of Interconnection Customer or MHVDC Connection Customer to provide this additional deposit will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP.

#### **7.3.1.4 Interconnection Customer Decision Point I**

All Interconnection Customers or MHVDC Connection Customers with

Interconnection Requests in the Definitive Planning Phase I will pass through Interconnection Customer Decision Point I. The Interconnection Customer Decision Point I will last for fifteen (15) Business Days beginning with the receipt of the Preliminary System Impact Study analysis including estimated upgrades and costs, as applicable. Transmission Provider shall notify all Interconnection Customers or MHVDC Connection Customers at the beginning of Interconnection Customer Decision Point I that the Interconnection Customer or MHVDC Connection Customer shall have fifteen (15) Business Days to decide whether it wants to proceed to the Definitive Planning Phase II or withdraw its Interconnection Request. The Transmission Provider shall provide written notice to each Interconnection Customer in a Definitive Planning Phase Group Study or ERAS confirming whether they are included in a JTIQ Screening Group and whether its Interconnection Request has qualified for inclusion in a JTIQ Participation Group prior to the beginning of Interconnection Customer Decision Point I. If the Transmission Provider determines that such Interconnection Request will be included in a JTIQ Participation Group, the notification shall include an estimate of the per-MW Generator Charge for such Interconnection Requests based on the latest available data on JTIQ Upgrade cost, the Potential MW Total projected for such JTIQ Portfolio. During Interconnection Customer Decision Point I, an Interconnection Customer or MHVDC Connection Customer may waive its right to elect the option to build or may defer the decision to the deadlines specified in Sections 7.3.2.5 & 7.3.3.5; failure to provide a written response will be deemed to be a deferral. During Interconnection Customer Decision Point I, an Interconnection Customer or MHVDC Connection Customer may reduce the size of its Interconnection Request by as much as 100 percent through either (1) a decrease in plant size or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1)

accomplished by applying Transmission Provider-approved injection-limiting equipment. However, because NR Interconnection Service includes an equivalent amount of ER Interconnection Service, a reduction in NRIS level will not reduce the ERIS level unless a corresponding reduction in ERIS level is requested. The total amount of NRIS requested shall not exceed the amount of ERIS requested. The required Definitive Planning Phase II Milestone calculation shall be based on the DPP Phase I results. If the Interconnection Customer or MHVDC Connection Customer decides to withdraw its Interconnection Request during, or any time before, the end of Interconnection Customer Decision Point I, then the Transmission Provider will refund Interconnection Customer 40% of Definitive Planning Phase I milestone (M2) and any remaining study deposits pursuant to Section 7.6. Any withdrawal during the Definitive Planning Phase I, but prior to Interconnection Customer Decision Point I, will neither be processed nor deemed withdrawn until Interconnection Customer Decision Point I. If an Interconnection Customer included in the JTIQ Participation Group reduces the size of Interconnection Request, the Transmission Provider shall determine whether such Interconnection Request continues to meet the criteria for inclusion in the JTIQ Participation Group and inform such Interconnection Customer of this determination not later than the start of Decision Point II.

If the Interconnection Customer or MHVDC Connection Customer decides to proceed to the Definitive Planning Phase II, then it will be required to pay Definitive Planning Phase II milestone (M3), pursuant to Section 7.3.1.4.1, prior to the end of Interconnection Customer Decision Point I.

If the Transmission Provider does not receive written confirmation from Interconnection Customer or MHVDC Connection Customer on whether it

wants to proceed to the Definitive Planning Phase II or withdraw its Interconnection Request, during the Interconnection Customer Decision Point I, the Transmission Provider will deem the Interconnection Request as withdrawn without any cure period, provide written notice to Interconnection Customer or MHVDC Connection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal, and refund Interconnection Customer's Definitive Planning Phase I milestone (M2) less the amount of Automatic Withdrawal Penalty and any remaining study deposits pursuant to Section 3.6. If the Transmission Provider does not receive Definitive Planning Phase II (M3) milestone payment during the Interconnection Customer Decision Point I, the Transmission Provider shall provide written notice to Interconnection Customer or MHVDC Connection Customer of such failure. Upon receipt of such notice, the Interconnection Customer or MHVDC Connection Customer shall have three (3) Business Days to provide the Definitive Planning Phase II (M3) milestone payment after which period the Transmission Provider will deem the Interconnection Customer or MHVDC Connection Customers as withdrawn without any further cure period if the Definitive Planning Phase II (M3) milestone payment has not been received. After Interconnection Customer or MHVDC Connection Customer enters the Definitive Planning Phase II, the Definitive Planning Phase I (M2) milestone payment becomes 100% non-refundable, pursuant to Section 7.8 and Section 7.6.2.1.

#### **7.3.1.4.1 Definitive Planning Phase II Milestone (M3)**

##### **Calculation.**

The Definitive Planning Phase II milestone (M3) will be in the form of either cash or irrevocable letter of credit reasonably acceptable to Transmission Provider. Interconnection Customers and MHVDC Connection Customers may replace cash milestone



payments with a letter of credit and may replace letters of credit with cash. The Definitive Planning Phase II milestone (M3) will be the greater of twenty percent (20%) of the amount of Network Upgrades, excluding JTIQ Upgrades, identified in the Preliminary System Impact Study less the amount previously provided at M2 or \$1,000/MW.

### **7.3.2 Definitive Planning Phase II**

The Definitive Planning Phase II start the next day after the fifteen (15) Business Days Interconnection Customer Decision Point I window expires.

The Definitive Planning Phase II will include the following steps:

- (i) Model Review Period (6 Business Days)
- (ii) Revised System Impact Study (75 Calendar Days)
- (iii) Interconnection Customer Decision Point II (15 Business Days)

Transmission Owner shall also use Reasonable Efforts to complete the Interconnection Facilities Study within ninety (90) Calendar Days. The Interconnection Facilities Study may be initiated during Definitive Planning Phase I, in accordance with Section 7.3.1 of this GIP. To the extent the Interconnection Facilities Study is performed during Definitive Planning Phase II, such study shall be performed concurrently with tasks (i) – (iii).

#### **7.3.2.1 Purpose**

The Definitive Planning Phase II is designed to provide Interconnection Customers and MHVDC Connection Customers a revised and a detailed analysis of their Interconnection Request's impact on the reliability of the Transmission System after incorporating updated generation and MHVDC assumptions due to potential withdrawal of Interconnection Requests

during Definitive Planning Phase I. Except as otherwise provided in Section 5.8, prior to the completion of the Revised System Impact Study, each impacted Transmission Owner shall indicate whether the Transmission Owner intends to self-fund each specific Network Upgrade and System Protection Facility identified in the Revised System Impact Study. A Transmission Owner's self-fund election will be included in the Revised System Impact Study. Except as otherwise provided in Section 5.8, the Transmission Owner's failure to provide its indication prior to the completion of the Revised System Impact Study shall constitute a waiver of the Transmission Owner's option to elect to self-fund each Network Upgrade and System Protection Facility identified in the Revised System Impact Study. Upon completion of the Revised System Impact Study, Transmission Provider will provide a detailed reliability analysis, pursuant to Section 7.3.2.5, to each Interconnection Customer or MHVDC Connection Customer that has an Interconnection Request in the Definitive Planning Phase II. Upon receipt of the Revised System Impact Study, the Interconnection Customer or MHVDC Connection Customer can either proceed to Definitive Planning Phase III or withdraw its Interconnection Request pursuant to Section 7.3.2.4 of this Attachment X.

#### **7.3.2.2 Model Building**

Before starting the Revised System Impact Study, Transmission Provider will distribute the study models to Interconnection Customer or MHVDC Connection Customer and Transmission Owner. The Transmission Provider will update the study models built during Definitive Planning Phase I, pursuant to Section 7.3.1.2, by removing all Interconnection Requests that did not proceed to the Definitive Planning Phase II. The Transmission Provider will distribute the revised study models to the Transmission Owner and Interconnection Customer or MHVDC Connection Customer for final review. Any comments or corrections

from the Transmission Owner or Interconnection Customer or MHVDC Connection Customer to the revised study models must be submitted to the Transmission Provider within six (6) Business Days after receipt of the revised study models. Should the Transmission Owner or Interconnection Customer or MHVDC Connection Customer fail to provide feedback on the revised study models within six (6) Business Days, Transmission Provider will deem the models acceptable. Transmission Provider shall thereafter begin the Revised System Impact Study.

#### **7.3.2.3 Scope of the Interconnection System Impact Study**

The Revised System Impact Study shall provide an updated, detailed analysis of their Interconnection Request's impact on the reliability of the Transmission System after incorporating updated generation and MHVDC assumptions due to potential withdrawal of Interconnection Requests during Definitive Planning Phase I. The Revised System Impact Study shall follow the procedures as the Preliminary System Impact Study described in Definitive Planning Phase I Section 7.3.1.3, as well as include a short circuit analysis and stability analysis. Transmission Provider shall include in the Revised System Impact Study an analysis of the upgrades on Distribution System, if applicable, and Affected Systems. If Transmission Provider determines in accordance with Good Utility Practice that any such analyses are needed, any stability analysis performed in a Revised System Impact Study may include transient stability, large and small signal, sub-synchronous stability, dynamic voltage stability, mid- and long-term stability, voltage flicker analyses and excessive neutral current. Transmission Provider shall utilize existing studies to the extent practicable in performing the Revised System Impact Study. For purposes of determining necessary Interconnection Facilities Network Upgrades, and responsibility for JTIQ Upgrades, the Revised System Impact Study shall consider the level of Interconnection Service

requested by the Interconnection Customer, unless otherwise required to study the full Generating Facility Capacity due to safety or reliability concerns. Transmission Provider shall use Reasonable Efforts to complete the Revised System Impact Study within seventy-five (75) Calendar Days.

At the request of Interconnection Customer or MHVDC Connection Customer, or at any time Transmission Provider determines that it will not meet the required time frame for completing the Revised System Impact Study, Transmission Provider shall notify Interconnection Customer or MHVDC Connection Customer regarding the following:

- (i) Schedule status of the Revised System Impact Study.
- (ii) Estimated completion date and an explanation of the reasons why additional time is required.
- (iii) Revised cost estimate of study deposits with an explanation of the reasons why cost estimates were revised. Interconnection Customer or MHVDC Connection Customer shall then provide within thirty (30) Calendar Days of Transmission Provider's notice, an additional deposit equal to the difference between the initial and revised cost estimate. Failure of Interconnection Customer or MHVDC Connection Customer to provide this additional deposit will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP.

**7.3.2.3.1 Additional Analysis Applicable to Interconnection Requests in a JTIQ Screening Group.**

In addition to the analyses specified in Section 7.3.2.3 of this GIP, Interconnection Requests that: (1) are included in a JTIQ Screening Group (including ERAS projects not otherwise subject to Transmission Provider's three-phase DPP) and not located in the MISO South Region as such region is defined by as the Generator Interconnection Business Practices Manual (BPM-015), and (2) are

part of the JTIQ Participation Group and located in the MISO South Region: shall be subject to the following additional analysis.

**a. Expanded Scope Analysis:** The Transmission Provider shall analyze the potential impacts of Interconnection Request on SPP's transmission system that are i) located within five (5) substations for facilities with a nominal operating voltage under 200kV, two (2) substations for facilities with a nominal operating voltage between 200 and 300 kV, and one (1) substation for facilities with a nominal operating voltage greater than 300 kV, from any substation that is part of the Transmission System; and ii) have greater than or equal to ten percent (10%) distribution factor on one or more facilities that are part of SPP's transmission system. An Interconnection Request that qualifies for and is subject to this Expanded Scope Analysis shall not be required to undergo analysis by SPP of impacts to its transmission system beyond those identified in the Expanded Scope Analysis or the Supplemental Affected System Analysis as described in Section 7.3.2.3.1(b) of this GIP.

If the Transmission Provider's Expanded Scope Analysis identifies an Interconnection Request as having impacts to SPP's transmission system that meets or exceed the foregoing distribution factor thresholds, the applicable Interconnection Customer(s) shall enter into an appropriate agreement with SPP or the applicable transmission owner to address such impacts in accordance with SPP's rules and procedures.

**b. Supplemental Affected System Analysis:** If the Transmission Provider determines that the Potential MW

Total, including the current Group Study, exceeds the Target MW value for the applicable JTIQ Portfolio, SPP shall perform a study to determine if any Supplemental Upgrades are required to address impacts to its transmission system from one or more Interconnection Customers and provide the results of this analysis to the Transmission Provider prior to the beginning of Decision Point II. Calculation of the Potential MW Total and the Supplemental Affected System Analysis shall be performed in accordance with Section 9.4.2(e)(iii) of Rate Schedule 6 (MISO-SPP JOA).

If the Supplemental Affected System Analysis indicates that Supplemental Affected System Upgrades are required for an Interconnection Request, then:

- (1) the applicable Interconnection Customer(s) shall enter into an appropriate agreement with SPP, or the applicable SPP transmission owner, to address such impacts in accordance with SPP's rules and procedures; and

- (2) Transmission Provider shall compare the costs of such Supplemental Affected System Upgrades to the Threshold Charge in the manner described in Section 9.4.2.(e)(iii)(a)(ii)(a)-(c) of Rate Schedule 6 (MISO-SPP JOA).

- (3) The Transmission Provider, in coordination with SPP, shall establish a cost criterion in dollars per megawatt (\$/MW) pursuant to Section 9.4.2.(e)(iii)(a)(ii)(a)-(c) of Rate Schedule 6 (MISO-SPP JOA). Where the costs assigned to an Interconnection Request for upgrades identified through the Supplemental Affected System Analysis, excluding

costs identified through the Expanded Scope Analysis, exceed the cost criterion, the Interconnection Request shall be exempt from charges for the JTIQ Upgrades. Otherwise, the Interconnection Request shall be obligated to pay a portion of the JTIQ Upgrade.

#### **7.3.2.4 Interconnection Customer Decision Point II**

All Interconnection Customers and MHVDC Connection Customers with Interconnection Requests in the Definitive Planning Phase II will pass through Interconnection Customer Decision Point II. The Interconnection Customer Decision Point II will last for fifteen (15) Business Days beginning with the receipt of the Revised System Impact Study analysis, including Expanded Scope Analysis where applicable, and Affected System analysis, including estimated upgrades and costs as applicable. Transmission Provider shall notify all Interconnection Customers and MHVDC Connection Customers at the beginning of Interconnection Customer Decision Point II that the Interconnection Customer or MHVDC Connection Customer shall have fifteen (15) Business Days to decide whether it wants to proceed to the Definitive Planning Phase III or withdraw its Interconnection Request. During Interconnection Customer Decision Point II, an Interconnection Customer or MHVDC Connection Customer may reduce the size of its Interconnection Request for ERIS by as much as an additional ten percent (10%) compared to what was studied in DPP Phase II, through either (1) a decrease in plant size or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1) accomplished by applying Transmission Provider-approved injection-limiting equipment. Additionally, an Interconnection Customer may request to reduce the amount of NRIS by as much as 100% independent of any requested reduction in ERIS. However, because NR Interconnection Service includes an equivalent

amount of ER Interconnection Service, a reduction in NRIS level will not reduce the ERIS level unless a corresponding reduction in ERIS level is requested. The total amount of NRIS requested shall not exceed the amount of ERIS requested. The required M4 milestone calculation shall be based on the DPP Phase II results. If an Interconnection Customer included in the JTIQ Participation Group reduces the size of Interconnection Request, the Transmission Provider shall determine whether such Interconnection Request continues to meet the criteria for inclusion in the JTIQ Participation Group and inform such Interconnection Customer of this determination through the Revised System Impact Study report.

If the Interconnection Customer or MHVDC Connection Customer decides to withdraw its Interconnection Request during, or any time before, the end of Interconnection Customer Decision Point II, then the Transmission Provider will refund Interconnection Customer's Definitive Planning Phase II milestone (M3) and any remaining study deposits pursuant to Section 7.8. Any withdrawal during the Definitive Planning Phase II, but prior to Interconnection Customer Decision Point II, will neither be processed nor deemed withdrawn until Interconnection Customer Decision Point II.

If the Interconnection Customer or MHVDC Connection Customer decides to proceed to the Definitive Planning Phase III, then it will be required to pay Definitive Planning Phase III milestone (M4), pursuant to Section 7.3.2.4.1, as well as provide evidence of continued Site Control for the proposed Generating Facility prior to the end of Interconnection Customer Decision Point II pursuant to Section 7.2.2.

If the Transmission Provider does not receive written confirmation from



Interconnection Customer or MHVDC Connection Customer on whether it wants to proceed to the Definitive Planning Phase III or withdraw its Interconnection Request, during the Interconnection Customer Decision Point II, the Transmission Provider will deem the Interconnection Request as withdrawn without any cure period, provide written notice to Interconnection Customer or MHVDC Connection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal, and refund Interconnection Customer's Definitive Planning Phase II milestone (M3) and any remaining study deposits pursuant to Section 7.6. If the Transmission Provider does not receive Definitive Planning Phase III (M4) milestone payment during the Interconnection Customer Decision Point II, the Transmission Provider shall provide written notice to Interconnection Customer or MHVDC Connection Customer of such failure. Upon receipt of such notice, the Interconnection Customer or MHVDC Connection Customer shall have three (3) Business Days to provide the Definitive Planning Phase III (M4) milestone payment after which period the Transmission Provider will deem the Interconnection Customer or MHVDC Connection Customers as withdrawn without any further cure period if the Definitive Planning Phase III milestone (M4) payment has not been received. After Interconnection Customer or MHVDC Connection Customer enters the Definitive Planning Phase III, the Definitive Planning Phase III (M4) milestone payment becomes 100% non-refundable, pursuant to Section 7.8.

**7.3.2.4.1 Definitive Planning Phase III Milestone (M4)  
Calculation.**

The Definitive Planning Phase III milestone (M4) will be in the form of either cash or irrevocable letter of credit reasonably acceptable to Transmission Provider. Interconnection Customers

and MHVDC Connection Customers may replace cash milestone payments with a letter of credit and may replace letters of credit with cash. The Definitive Planning Phase III milestone (M4) will be thirty percent (30%) of the amount of Network Upgrades identified in the Revised System Impact Study, not including costs associated with JTIQ Upgrades, less any payments made as M2 and M3, but in no event shall the M4 be less than zero dollars.

**7.3.2.4.2 True-down of Milestone Payments.**

Within ten (10) Business Days from the start of Definitive Planning Phase III, Transmission Provider shall notify the Interconnection Customer if the total posted M3 and M4 milestone payments (*i.e.*, the sum of the M3 and M4 payments) for the Interconnection Request exceed thirty percent (30%) of the total Network Upgrade cost assigned to such Interconnection Request in the Revised System Impact Study, excluding the JTIQ Generator Charge. Transmission Provider shall refund such excess amounts to the Interconnection Customer as soon as practicable.

**7.3.2.5 Scope of Interconnection Facilities Study.**

The first portion of the Interconnection Facilities Study focusing on the Interconnection Facilities or the Connection Facilities for the project will start no later than the first day of Definitive Planning Phase II in accordance with Section 7.3.2 of this GIP. This portion of the Interconnection Facilities Study will identify estimates for cost and the time required to construct the Interconnection Facilities or the Connection Facilities, including cost estimates that the Transmission Owner will impose if the Interconnection Customer elects to build (e.g. oversight or management costs). Within 10 Business Days of the Interconnection Customer's receipt of the draft Interconnection Facilities Study, unless the

Interconnection Customer has waived its option to build under Section 7.3.1.4, the Interconnection Customer shall either elect the option to build or waive the option to build. If the Interconnection Customer elects the option to build, at the same time it makes that election, it must also supply completed cost estimates for Exhibits A7 and A8 as described in Business Practices Manual 15 for the Interconnection Facilities and Stand-Alone Network Upgrades that it has elected to build. Failure to provide a written response or a failure to provide the required cost estimates will be deemed to be a waiver of the Interconnection Customer's option to build. Nothing in this Section shall be interpreted to prohibit an Interconnection Customer from, with Transmission Owner's consent, from waiving its option to build at a later time prior to GIA execution, but an Interconnection Customer is not entitled to reverse its waiver. Transmission Provider shall use Reasonable Efforts to complete this portion of the Interconnection Facilities Study within ninety (90) Calendar Days.

### **7.3.3 Definitive Planning Phase III**

The Definitive Planning Phase III will start the day after the expiration of the fifteen (15) Business Day Interconnection Customer Decision Point II.

The Definitive Planning Phase III will include the following steps:

- (i) Model Review (6 Business Days)
- (ii) Final System Impact Study (50 Calendar Days)
- (iii) Interconnection Facilities Study for Network Upgrades (90 Calendar Days)

#### **7.3.3.1 Purpose**

The Definitive Planning Phase III is designed to provide Interconnection Customers and MHVDC Connection Customers a final, detailed analysis of their Interconnection Request's impact on the reliability of the

Transmission System after incorporating updated generation and MHVDC assumptions due to potential withdrawal of Interconnection Requests during Definitive Planning Phase II. For each specific Network Upgrade and System Protection Facility that the Transmission Owner did not elect to self-fund as a part of the Revised System Impact Study, the Transmission Owner shall not be permitted to further revise its election after the completion of the Revised System Impact Study. For each specific Network Upgrade and System Protection Facility that the Transmission Owner elected to self-fund as a part of the Revised System Impact Study, each impacted Transmission Owner shall confirm or revise its self-fund election prior to the completion of the Final System Impact Study. In the event that a new Network Upgrade or System Protection Facility is identified in the Final System Impact Study that had not previously been identified in the Revised System Impact Study, each impacted Transmission Owner shall make a binding indication as to whether the Transmission Owner intends to self-fund the new Network Upgrade and System Protection Facility prior to the completion of the Final System Impact Study. A Transmission Owner's self-fund election will be included in the Final System Impact Study. Except as otherwise provided in Section 5.8, a Transmission Owner's failure to provide its self-fund election prior to the completion of the Final System Impact Study shall constitute a waiver of the Transmission Owner's option to self-fund each Network Upgrade and System Protection Facility identified in the Final System Impact Study. Upon completion of the Final System Impact Study, Transmission Provider will perform Facilities Study pursuant to Section 7.3.3.5. Upon completion of the Interconnection Facilities Study, Transmission Provider will tender a draft *pro forma* Generator Interconnection Agreement to the Interconnection Customer and Transmission Owner.

#### **7.3.3.2 Model Building**

Before starting the Final System Impact Study, Transmission Provider will distribute the study models to Interconnection Customer or MHVDC Connection Customer and Transmission Owner. The Transmission Provider will update the study models built during Definitive Planning Phase II, pursuant to Section 7.3.2.2, by removing all Interconnection Requests that did not proceed to the Definitive Planning Phase III. The Transmission Provider will distribute the revised study models to the Transmission Owner and Interconnection Customer or MHVDC Connection Customer for final review. Any comments or corrections from the Transmission Owner or Interconnection Customer or MHVDC Connection Customer to the revised study models must be submitted to the Transmission Provider within six (6) Business Days after receipt of the revised study models. Should the Transmission Owner or Interconnection Customer or MHVDC Connection Customer fail to provide feedback on the revised study models within six (6) Business Days, Transmission Provider will deem the models acceptable. Transmission Provider shall thereafter begin the Final System Impact Study.

#### **7.3.3.3 Scope of the Final System Impact Study**

The Final System Impact Study shall provide a final, detailed analysis of their Interconnection Request's impact on the reliability of the Transmission System after incorporating updated generation assumptions due to potential withdrawal of Interconnection Requests during Definitive Planning Phase II. The Final System Impact Study shall follow the procedures as the Revised System Impact Study described in Definitive Planning Phase II Section 7.3.2.3 and additional JTIQ analysis described in Section 7.3.2.3.1, where applicable. For purposes of determining necessary Interconnection Facilities and Network Upgrades, the Final System Impact Study shall consider the level of Interconnection Service

requested by the Interconnection Customer, unless otherwise required to study the full Generating Facility Capacity due to safety or reliability concerns. Transmission Provider shall utilize existing studies to the extent practicable in performing the Final System Impact Study.

The Final System Impact Study will start the day after the completion of the Model Review in the Definitive Planning Phase III. Transmission Provider shall use Reasonable Efforts to complete the Final System Impact Study within fifty (50) Calendar Days.

At the request of Interconnection Customer or MHVDC Connection Customer, or at any time Transmission Provider determines that it will not meet the required time frame for completing the Final System Impact Study, Transmission Provider shall notify Interconnection Customer or MHVDC Connection Customer regarding the following:

- (i) Schedule status of the Final System Impact Study.
- (ii) Estimated completion date and an explanation of the reasons why additional time is required.
- (iii) Revised cost estimate of study deposits with an explanation of the reasons why cost estimates were revised. Interconnection Customer or MHVDC Connection Customer shall then provide within thirty (30) Calendar Days of Transmission Provider's notice, an additional deposit equal to the difference between the initial and revised cost estimate. Failure of Interconnection Customer or MHVDC Connection Customer to provide this additional deposit will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP.

#### **7.3.3.4 Scope of Interconnection Facilities Study.**

Transmission Provider may begin the second portion of the

Interconnection Facilities Study for that Network Upgrade prior to the completion of the Final System Impact Study. The Interconnection Customer(s) responsible for a Network Upgrade may request that the second portion of the Interconnection Facilities Study begin after the completion of Interconnection Customer Decision Point II and prior to the completion of the Final System Impact Study. MISO shall start the second portion of the Interconnection Facilities Study no later than the day following the posting of the Final System Impact Study report. This phase will identify estimates for the cost and time required to build necessary Network Upgrades that are identified in the Final System Impact Study. Transmission Provider shall use Reasonable Efforts to complete this portion of the Interconnection Facilities Study within ninety (90) Calendar Days from the start date of the Interconnection Facilities Study.

The Interconnection Facilities Study, in its entirety, shall specify and estimate the cost of the required equipment, engineering, procurement and construction work needed to implement the Network Upgrades and Interconnection Facilities or Connection Facilities identified in the Final System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Interconnection Facilities or the Connection Facilities to the Transmission or Distribution System, as applicable, as well as that equipment, to the extent known and available in accordance with Section 3.5 of these GIP, required by Affected Systems to accommodate the interconnection of the Generating Facility or the MHVDC Transmission Line.

The Interconnection Facilities Study shall also identify the electrical switching configuration of the connection equipment, including, without limitation: the transformer, switchgear, meters, and other station equipment; the nature and estimated cost of any Transmission Owner's

Interconnection Facilities or Connection Facilities and Network Upgrades, Distribution Upgrades, Generator Upgrades, Common Use Upgrades, and to the extent known and available in accordance with Section 3.5 of the GIP, upgrades on Affected Systems necessary to accomplish the interconnection; and an estimate of the time required to complete the construction and installation of such facilities. The Interconnection Facilities Study will also identify any potential control equipment for requests for Interconnection Service that are lower than the Generating Facility Capacity.

#### **7.3.3.5 Interconnection Facilities Study Procedures.**

Transmission Provider shall coordinate the Interconnection Facilities Study with any Affected System pursuant to Section 3.5 of this GIP. Transmission Provider shall utilize existing studies to the extent practicable in performing the Interconnection Facilities Study. The Interconnection Facilities Study for an Interconnection Request shall be typically performed as a Group Study with respect to Common Use Upgrades and/or Interconnection Facilities or Connection Facilities common to more than one Interconnection Request.

At the request of Interconnection Customer or MHVDC Connection Customer or at any time Transmission Provider determines that it will not meet the required time frame for completing the Interconnection Facilities Study, Transmission Provider shall notify Interconnection Customer or MHVDC Connection Customer as to the schedule status of the Interconnection Facilities Study. If Transmission Provider is unable to complete the Interconnection Facilities Study within the time required, Transmission Provider shall notify Interconnection Customer and provide an estimated completion date and an explanation of the reasons why additional time is required. If Transmission Provider is unable to



complete the Interconnection Facilities Study with the study deposit provided by Interconnection Customer or MHVDC Connection Customer, Transmission Provider shall notify Interconnection Customer or MHVDC Connection Customer and provide a revised cost estimate with an explanation of the reasons why. Interconnection Customer or MHVDC Connection Customer shall then provide within fifteen (15) Calendar Days of Transmission Provider's notice, an additional deposit equal to the difference between the initial and revised cost estimate. Failure of Interconnection Customer or MHVDC Connection Customer to provide this additional deposit will result in withdrawal of the Interconnection Request pursuant to Section 3.6 of this GIP.

Interconnection Customer or MHVDC Connection Customer and Transmission Owner may, within fifteen (15) Calendar Days after receipt of the draft Interconnection Facilities report and supporting documentation, provide written comments to Transmission Provider, which Transmission Provider shall include in the final Interconnection Facilities report. If the draft Interconnection Facilities report contains a Stand-Alone Network Upgrade, unless the Interconnection Customer has waived its option to build under Section 7.3.1.4, the cost estimate shall include the cost that the Transmission Owner will impose if the Interconnection Customer elects to build (e.g. oversight or management costs). Unless the Interconnection Customer has waived its option to build under Section 7.3.1.4, the Interconnection Customer shall either elect the option to build or waive the option to build Stand-Alone Network Upgrades identified in the second portion of the Interconnection Facilities Study within 15 calendar days of receiving the draft Interconnection Facilities report. If the Interconnection Customer elects the option to build, at the same time it makes that election, it must also supply completed cost estimates for Exhibits A7 and A8 as described in the

Business Practices Manual 15 for the Stand-Alone Network Upgrades that it has elected to build. Failure to provide a written response or a failure to provide the required cost estimates will be deemed to be a waiver of the Interconnection Customer's option to build. Nothing in this Section shall be interpreted to prohibit an Interconnection Customer, with Transmission Owner's consent, from waiving its option to build at a later time prior to GIA execution, but an Interconnection Customer is not entitled to reverse its waiver. If Interconnection Customer elects to build, Transmission Provider shall include that election in the final Interconnection Facilities report. Transmission Provider shall issue the final Interconnection Facilities report and supporting documentation within ten (10) Calendar Days of receiving the Interconnection Customer's or the MHVDC Connection Customer's comments or promptly upon receiving Interconnection Customer's or the MHVDC Connection Customer's statement that it will not provide comments. Transmission Provider may reasonably extend such fifteen-day period upon notice to Interconnection Customer or MHVDC Connection Customer if the Interconnection Customer's or the MHVDC Connection Customer's comments require Transmission Provider to perform additional analyses or make other significant revisions prior to the issuance of the final Interconnection Facilities Report. Upon request, Transmission Provider shall provide Interconnection Customer or MHVDC Connection Customer supporting documentation, work papers, and databases or data developed in the preparation of the Interconnection Facilities Study, subject to confidentiality arrangements consistent with Section 13.1.

Interconnection Customer or MHVDC Connection Customer shall maintain as confidential any information that is provided by Transmission Provider and identified as Critical Energy Infrastructure Information (CEII), as that term is defined in 18 C.F.R. Section 388.113(c). Such confidentiality will be maintained in accordance with Section 13.1.

**7.4 Meeting with Transmission Provider.**

Within ten (10) Business Days of providing draft GIA or TCA appendices and, as applicable, associated draft appendices for the related FCA(s) and/or MPFCA(s) and supporting documentation to Interconnection Customer, Transmission Owner and Interconnection Customer may meet to discuss the results of the Interconnection Facilities Study.

**7.5 Interconnection Study Restudy.**

If a restudy of any Interconnection Study is required because an Interconnection Request withdraws or is deemed to have withdrawn prior to all GIAs, TCAs, FCAs, and/or MPFCAs, as applicable, for each respective Definitive Planning Phase cycle have been executed or filed unexecuted with the Federal Energy Regulatory Commission, Transmission Provider shall provide notice of restudy as necessary. The Transmission Provider's notice shall include a summary of a preliminary analysis supporting the need for an Interconnection Study restudy, an explanation of why an Interconnection Study restudy is required and a good faith estimate of the cost to perform the Interconnection Study restudy. The Interconnection Study restudy shall be performed subject to the GIP and Business Practices Manuals in effect at the time notice is provided by Transmission Provider. Interconnection Customer or MHVDC Connection Customer shall notify Transmission Provider within five (5) Business Days whether Interconnection Customer or MHVDC Connection Customer wishes to proceed with the Interconnection Study restudy or withdraw its Interconnection Request. Transmission Provider shall deem Interconnection Customer's or MHVDC Connection Customer's failure to notify Transmission Provider to proceed to perform the Interconnection Study restudy as Interconnection Customer's or MHVDC Connection Customer's withdrawal of its Interconnection Request in accordance with Section 3.6 of this GIP. Transmission Provider shall use Reasonable Efforts to complete such Interconnection Study restudy no later than

sixty (60) Calendar Days from the date of notice. Transmission Provider may elect to perform any Interconnection Study restudy of Network Upgrades common to more than one Interconnection Request as a Group Study.

## **7.6 Refunds**

### **7.6.1 Refunds of Study Deposits**

Transmission Provider shall charge and Interconnection Customer or MHVDC Connection Customer shall pay the actual costs of the Interconnection Studies. Any difference between the study deposit and the actual cost of the applicable Interconnection Study shall be paid by or refunded to, except as otherwise provided herein, the Interconnection Customer. Any invoices for Interconnection Studies shall include a detailed and itemized accounting of the cost of each Interconnection Study. Interconnection Customer or MHVDC Connection Customer shall pay any such undisputed costs within thirty (30) Calendar Days of receipt of an invoice. Transmission Provider shall not be obligated to perform or continue to perform any studies unless Interconnection Customer or MHVDC Connection Customer has paid all undisputed amounts in compliance herewith.

All charges associated with performing Interconnection Studies, during all three phases of the Definitive Planning Phase, are the responsibility of Interconnection Customers or MHVDC Connection Customers with active Interconnection Requests during each respective Definitive Planning Phase.

If the Interconnection Customer or MHVDC Connection Customer withdraws its Interconnection Request any time before the end of Interconnection Customer Decision Point I, the Transmission Provider

will refund to the Interconnection Customer or MHVDC Connection Customer any unused portion of the study deposits. Any Interconnection Customer or MHVDC Connection Customer that withdraws its Interconnection Request, or is deemed to be withdrawn, during Definitive Planning Phase I but before Interconnection Customer Decision Point I is responsible for its pro rata portion of the group Interconnection Study costs for Definitive Planning Phase I. Any Interconnection Customer or MHVDC Connection Customer that withdraws its Interconnection Request, or is deemed to be withdrawn, prior to the expiration of Interconnection Customer Decision Point I will not be responsible to fund any Interconnection Studies that take place during or after the start of the Definitive Planning Phase II of the GIP.

If the Interconnection Customer or MHVDC Connection Customer withdraws its Interconnection Request any time after Interconnection Customer Decision Point I, but before the expiration of the Interconnection Customer Decision Point II, then the Transmission Provider will refund to the Interconnection Customer or MHVDC Connection Customer any unused portion of the study deposits. Any Interconnection Customer or MHVDC Connection Customer that withdraws its Interconnection Request, or is deemed to be withdrawn, during Definitive Planning Phase II but before Interconnection Customer Decision Point II is responsible for its pro rata portion of the group Interconnection Study costs for Definitive Planning Phase II. Any Interconnection Customer or MHVDC Connection Customer that withdraws its Interconnection Request prior to the expiration of Interconnection Customer Decision Point II will not be responsible to fund any Interconnection Studies that take place during or after the start of Definitive Planning Phase III of the GIP.

If the Interconnection Customer or MHVDC Connection Customer withdraws its Interconnection Request any time during Definitive Planning Phase III of the GIP, and if the Transmission Provider determines that an Interconnection Study restudy is required, then the withdrawing Interconnection Customer or MHVDC Connection Customer will be responsible to fund all such restudies in Definitive Planning Phase III of the GIP, up to the amount of that Interconnection Customer's total study deposit. However, if the Transmission Provider determines that no Interconnection Study restudy is required due to the withdrawal of Interconnection Customer's or MHVDC Connection Customer's Interconnection Request, then the withdrawing Interconnection Customer or MHVDC Connection Customer will not be responsible to fund any further Interconnection Studies during Definitive Planning Phase III of the GIP and the Transmission Provider shall refund to the Interconnection Customer or MHVDC Connection Customer any unused portion of the study deposit paid to enter the Definitive Planning Phase.

## **7.6.2 Refunds of Definitive Planning Phase Milestones (M2, M3, M4)**

### **7.6.2.1 Refunds of Definitive Planning Phase entry milestone (M2)**

Interconnection Customers and MHVDC Connection Customers are eligible to receive one hundred percent (100%) refund of the Definitive Planning Phase entry milestone (M2) only when the Interconnection Request is withdrawn or deemed withdrawn prior to the start of Definitive Planning Phase I or when Transmission Provider has completed review of Site Control sufficiency pursuant to Section 7.2.1.3 of the GIP and the Interconnection Request is deemed withdrawn due to Site Control deficiencies. Interconnection Customers and MHVDC Connection Customers are eligible to receive refund of forty percent (40%) of the Definitive Planning Phase entry milestone (M2) only when the

Interconnection Request is withdrawn or deemed withdrawn during Definitive Planning Phase I or at any time before or at the end of Interconnection Customer Decision Point I. The remaining 60% of the Definitive Planning Phase entry milestone (M2) becomes non-refundable pursuant to Section 7.6.2.1.1 and 7.8 of the GIP. If the Interconnection Request is withdrawn any time after the Interconnection Customer Decision Point I, then the entire Definitive Planning Phase entry milestone (M2) becomes non-refundable pursuant to Section 7.6.2.1.1 and 7.8 of the GIP.

#### **7.6.2.1.1 Calculation of the Automatic Withdrawal Penalty**

Interconnection Customer shall be subject to an Automatic Withdrawal Penalty if it withdraws its Interconnection Request, or the Interconnection request is deemed withdrawn pursuant to section 7.2.1.3 or section 3.6 of the GIP.

- (a) If Interconnection Request is withdrawn or deemed withdrawn during Definitive Planning Phase I or at any time before or at the end of Interconnection Customer Decision Point I, the Interconnection Customer shall be charged ten percent (10%) of the Definitive Planning Phase entry milestone (M2).
- (b) If the Interconnection Request is withdrawn or deemed withdrawn after Interconnection Customer Decision Point I and before or at the end of Interconnection Customer Decision Point II, the Interconnection Customer shall be charged thirty-five percent (35%) of the Definitive Planning Phase entry milestone (M2).

(c) If the Interconnection Request is withdrawn or deemed withdrawn after Interconnection Customer Decision Point II and before the end of the Definitive Planning Phase III, the Interconnection Customer shall be charged seventy five percent (75%) of the Definitive Planning Phase entry milestone (M2).

(d) If the Interconnection Request is withdrawn or deemed withdrawn after start of the Generator Interconnection Agreement (GIA) negotiations (within 5 days of posting of the Final System Impact Study report) the Interconnection Customer shall be charged one hundred percent (100%) of the Definitive Planning Phase entry milestone (M2).

#### **7.6.2.2 Refund of Definitive Planning Phase II milestone (M3)**

Interconnection Customers and MHVDC Connection Customers are eligible to receive one hundred percent (100%) refund of the Definitive Planning Phase II milestone (M3) only when the Interconnection Request is withdrawn or deemed withdrawn after Interconnection Customer Decision Point I and before or at the end of Interconnection Customer Decision Point II. If the Interconnection Request is withdrawn any time after the end of Interconnection Customer Decision Point II, then the Definitive Planning Phase II milestone (M3) becomes non-refundable pursuant to Section 7.8 of the GIP.

#### **7.6.2.3 Refund of Definitive Planning Phase II milestone (M4)**

If the Interconnection Customer or MHVDC Connection Customer decides to withdraw its Interconnection Request any time after entering the Definitive Planning Phase III, then the Definitive Planning Phase III milestone (M4) becomes non-refundable pursuant to Section 7.8 of the GIP.



**7.6.2.4 Withdrawal and refund due to increase in Network Upgrade costs**

Milestone payments will be refunded in the event the Interconnection Customer or MHVDC Connection Customer withdraws because the total Network Upgrade cost estimates in the Revised System Impact Study increased by more than fifty percent (50%) and more than \$10,000 per MW over the Preliminary System Impact Study as a result of Transmission Provider, or Transmission Owner error. To obtain a refund, Interconnection Customer must withdraw at the end of Interconnection Customer Decision Point II.

Milestone payments will be refunded in the event the Interconnection Customer or MHVDC Connection Customer withdraws because the total Network Upgrade cost estimates in the Final System Impact Study increased by more than thirty-five percent (35%) and more than \$10,000 per MW over the Revised System Impact Study as a result of Transmission Provider, Affected System or Transmission Owner error. To obtain a refund, Interconnection Customer must withdraw within five Business Days of posting the results of the Final System Impact Study.

Milestone payments less Automatic Withdrawal Penalty amount will also be refunded in the event the Interconnection Customer or MHVDC Connection Customer withdraws and the total Network Upgrade cost estimates in the Interconnection Facilities Study increased by more than thirty-five percent (35%) and more than \$10,000 per MW over the Network Upgrade cost estimates in the Final System Impact Study. To obtain a refund, Interconnection Customer must withdraw within five Business Days of posting the results of the Interconnection Facilities Study.

Milestone payments less Automatic Withdrawal Penalty amount will also be refunded in the event the Interconnection Customer or MHVDC Connection Customer withdraws within the later of five (5) Business Days of the results of the study or at the end of an Interconnection Customer Decision Point, if applicable, of results indicating designated increases in estimated upgrade costs across the following intervals:

1. DPP Phase I to DPP Phase II
  - a. An increase in MISO Network Upgrade costs from Phase I to Phase II of at least 50%, and more than \$10,000 per MW from the Preliminary SIS to the Revised SIS.
2. DPP Phase II to DPP Phase III
  - a. An increase in the combined Network Upgrade and Affected System costs from Phase II to Phase III of thirty-five percent (35%) and more than \$15,000 per MW from the Revised SIS to any Final SIS.

**7.7 Applicability of Definitive Planning Phase Milestone Payments (M2, M3, and M4) to Generator Interconnection Agreement Initial Payment or Transmission Connection Agreement Initial Payment**

In the event the Interconnection Customer has elected to make its milestones in the form of cash, Transmission Provider will transfer the Definitive Planning Phase milestones to the appropriate Transmission Owner to satisfy the initial payment requirement of the Generator Interconnection Agreement, TCA or other applicable service agreement within forty-five (45) Calendar Days of the effective date of the Generator Interconnection Agreement, TCA or other applicable service agreement. The Transmission Provider shall refund Milestone cash payments exceeding the initial payment requirement to the Interconnection Customer, MHVDC Connection Customer or the applicable Transmission Owner upon Interconnection Customer's or MHVDC Connection Customer's request

with Transmission Owner's consent, within forty-five (45) Calendar Days of the effective date of the Generator Interconnection Agreement, TCA or other applicable service agreement. In the event the milestone payments are less than the initial payment requirement, the Interconnection Customer or MHVDC Connection Customer shall be responsible for the remaining payment to the Transmission Owner.

In the event milestone payments were provided pursuant to an irrevocable letter of credit, such letter of credit shall be released upon satisfaction of the initial payment requirement in the Generator Interconnection Agreement, TCA or other applicable service agreement.

#### **7.8 Use of Definitive Planning Phase Entry At Risk Milestone Payments (M2, M3 and M4) or Payments of Withdrawn Projects**

Upon completion of the Definitive Planning Phase III and after any subsequent restudy performed after Definitive Planning Phase III, Transmission Provider will determine the financial impact of withdrawn projects on each remaining Interconnection Request in the same cycle. This financial impact will be determined using the following two-step method.

Step 1: Transmission Provider first determines the cost of upgrades that are shifted from withdrawn projects to remaining projects that were co-participants in Common Use Upgrades or Shared Network Upgrades.

For projects that withdrew before the completion of Interconnection Customer Decision Point I with at-risk milestones, the Transmission provider will determine the costs that were shifted from withdrawn projects to remaining projects that were co-participants in Common Use Upgrades or Shared Network Upgrades. In order to determine whether a withdrawal caused overall financial impact to those remaining Interconnection Requests, the

Transmission Provider shall compare the planning level cost allocation between the Preliminary System Impact Study and the Final System Impact Study.

For projects that withdrew after the completion of Interconnection Customer Decision Point I but before the completion of Interconnection Customer Decision Point II with at-risk milestones, the Transmission Provider will determine the costs that were shifted from withdrawn projects to remaining projects that were co-participants in Common Use Upgrades or Shared Network Upgrades. In order to determine whether a withdrawal caused overall financial impact to those remaining Interconnection Requests, the Transmission Provider shall compare the planning level cost allocation between the Revised System Impact Study and the Final System Impact Study.

For projects that withdrew after the completion of Interconnection Customer Decision Point II with at-risk milestones or payments, the Transmission Provider will determine the costs that were shifted from withdrawn projects to remaining projects that were co-participants in Common Use Upgrades or Shared Network Upgrades. In order to determine whether a withdrawal caused overall financial impact to those remaining Interconnection Requests, the Transmission Provider shall compare the planning level cost allocation between the last study the withdrawing project was included in and the subsequent study.

For each of the step 1 comparisons, if the comparative planning level cost analysis indicates that a project withdrawal causes an increase in financial impact to any remaining co-participants, a financial impact analysis will be performed to determine if the overall costs to the remaining co-participants subsequently increased, those remaining co-participants will be credited using the milestones,

and/or payment(s) made under a GIA, FCA, or MPFCA that were forfeited by the withdrawn Interconnection Customers or MHVDC Connection Customers in the same cycle.

Step 2: Transmission Provider will calculate the financial impact to each remaining Interconnection Request that is obligated to fund Network Upgrades other than Common Use Upgrades or Shared Network Upgrades.

For projects that withdrew before the completion of Interconnection Customer Decision Point I with at-risk milestones, the Transmission provider will determine the costs that were shifted from withdrawn projects to remaining projects that fund Network Upgrades other than Common Use Upgrades or Shared Network Upgrades. In order to determine whether a withdrawal caused overall financial impact to those remaining Interconnection Requests, the Transmission Provider shall compare the planning level cost allocation between the Preliminary System Impact Study and the Final System Impact Study.

For projects that withdrew after the completion of Interconnection Customer Decision Point I but before the completion of Interconnection Customer Decision Point II with at-risk milestones, the Transmission Provider will determine the costs that were shifted from withdrawn projects to remaining projects that fund Network Upgrades other than Common Use Upgrades or Shared Network Upgrades. In order to determine whether a withdrawal caused overall financial impact to those remaining Interconnection Requests, the Transmission Provider shall compare the planning level cost allocation between the Revised System Impact Study and the Final System Impact Study.

For projects that withdrew after the completion of Interconnection Customer

Decision Point II with at-risk milestones or payments, the Transmission Provider will determine the costs that were shifted from withdrawn projects to remaining projects that fund Network Upgrades other than Common Use Upgrades or Shared Network Upgrades. In order to determine whether a withdrawal caused overall financial impact to those remaining Interconnection Requests, the Transmission Provider shall compare the planning level cost allocation between the Final System Impact Study and the subsequent restudy. For each of the Step 2 comparisons, if any portion of the comparative analyses indicates that the withdrawal of a project causes an increase in the total cost of Network Upgrades, other than Common Use Upgrades or Shared Network Upgrades, for any of the remaining Interconnection Requests, the Transmission Provider will use the Definitive Planning Phase at-risk milestones (M2, M3 and M4), collected from the withdrawn Interconnection Requests in the current Definitive Planning Phase cycle and/or payment(s) made under a GIA, FCA, or MPFCA, to offset the cost difference for those remaining Interconnection Requests in the same cycle. If any portion of the comparative analyses indicated that the withdrawal of a project causes a decrease in the total cost of Network Upgrades, other than Common Use Upgrades or Shared Network Upgrades, for any of the remaining Interconnection Requests, those remaining Interconnection Customers and MHVDC Connection Customers shall not receive any reimbursement from the collected Definitive Planning Phase milestones and/or payment(s) made under a GIA, FCA, or MPFCA. If any portion of the comparative analyses indicates that the withdrawal of a project causes the total cost of Network Upgrades, other than Common Use Upgrades or Shared Network Upgrades, for any of the remaining Interconnection Requests to remain the same, those remaining Interconnection Customers and MHVDC Connection Customers shall not receive any reimbursement from the collected Definitive Planning Phase milestones and/or payment(s) made under a GIA, FCA, or MPFCA.

The total allocation to any remaining Interconnection Requests will not exceed

the total Definitive Planning Phase milestones collected from the Interconnection Customers and MHVDC Connection Customers that withdrew their Interconnection Requests from the same Definitive Planning Phase cycle and/or the allowable amount from the payment(s) made under a GIA, FCA, or MPFCA. In instances where the total cost of Network Upgrades has increased for multiple Interconnection Requests, but the collected Definitive Planning Phase milestones and/or the allowable amount from the payment(s) made under a GIA, FCA, or MPFCA are insufficient to cover the increase in total cost of Network Upgrades for all affected Interconnection Requests, the Transmission Provider will allocate the collected Definitive Planning Phase milestones equally as a percentage of increased Network Upgrade costs.

If any collected Definitive Planning Phase milestones and/or payment(s) made under a GIA, FCA, or MPFCA remain after allocating to remaining affected Interconnection Requests, the Transmission Provider will refund the remaining collected Definitive Planning Phase at-risk milestones to each Interconnection Customer and MHVDC Connection Customer in proportion to that customer's forfeited milestone payments as a *pro rata* share of the total collected Definitive Planning Phase milestones and/or payments made under a GIA, FCA, or MPFCA.

The amount of the payment(s) made under a GIA, FCA, or MPFCA that can be used to compensate for financial impact under this Section cannot exceed the amount of the Interconnection Customer's or MHVDC Connection Customer's Definitive Planning Phase milestones.

#### **7.8.1 Use of the Automatic Withdrawal Penalty Payments**

For each DPP study group, Transmission Provider shall hold all Automatic Withdrawal Penalty funds until all Interconnection Customers in that study group have either: (1) withdrawn or been deemed withdrawn; (2) executed a

GIA; or (3) requested a GIA to be filed unexecuted. Any Automatic Withdrawal Penalty funds collected from each DPP study group shall be allocated towards studies cost and Network Upgrade costs for Interconnection Customers in the same study group that have executed the GIA or requested the GIA to be filed unexecuted.

Automatic Withdrawal Penalty funds shall be distributed to the Interconnection Customers in the same DPP study group that executed their GIA or requested to have their GIA filed unexecuted following the last Effective Date of any GIA for an Interconnection Request in the study group. The amount of Automatic Withdrawal Penalty funds distributed to an Interconnection Customer shall not exceed the total study costs and Network Upgrade costs.

## **7.9 Provisional Generator Interconnection Agreement**

The Transmission Provider may provide a provisional Generator Interconnection Agreement for limited operation at the discretion of Transmission Provider based upon the results of available studies that indicate that there is a level of interconnection that can occur without any additional Network Upgrades. An Interconnection Customer may request such Provisional Generator Interconnection Agreement by providing written notice to the Transmission Provider beginning upon Interconnection Request submission and up to and through Interconnection Customer Decision Point II (Section 7.3.2.4 of this GIP). An Interconnection Customer that qualifies for inclusion in a JTIQ Participation Group shall execute or request the unexecuted filing of the JTIQ Commitment Agreement concurrently with their provisional GIA and, if tendered, the SPP JTIQ Service Agreement. If the SPP JTIQ Service Agreement has not been tendered to Interconnection Customer by the time such Interconnection Customer executes or rests the unexecuted filing of the provisional Generator Interconnection Agreement, the provisional Generator Interconnection Agreement



shall include a milestone in Appendix B requiring the Interconnection Customer to execute or request the unexecuted filing of such agreement within fifteen (15 days after it is tendered).

If scheduled Interconnection Customer Decision Point I, Interconnection Customer Decision Point II, or the Interconnection Facilities Study for Network Upgrades becomes delayed by more than sixty (60) Calendar Days, Interconnection Customers may also request a Provisional Generator Interconnection Agreement from Transmission Provider. A request for a Provisional Generator Interconnection Agreement at any other time shall be deemed invalid by the Transmission Provider.

All provisions of the Definitive Planning Phase (Section 7 of this GIP) apply, except as provided in Section 7.9.1. After receiving a request for a Provisional Generator Interconnection Agreement, the Transmission Provider will begin the first portion of the Interconnection Facilities Study as discussed in Section 7.3.3.4 and will perform a Provisional Interconnection Study. After completing required studies, the Transmission Provider will issue a draft Provisional Generator Interconnection Agreement pursuant to Section 11.2.

#### **7.9.1 Additional Definitive Planning Phase Requirements for Provisional Generator Interconnection Agreements**

Interconnection Customers seeking a Provisional Generator Interconnection Agreement must submit Definitive Planning Phase II and Definitive Planning Phase III Milestones (M3 and M4). If M3 and M4 have not been calculated at the time of Interconnection Customer's request for a Provisional Generator Interconnection Agreement, M3 and M4 shall each be initially \$8,000 per MW. The Transmission Provider shall then calculate the M3 and M4 as provided in Sections 7.3.1.4.1 and 7.3.2.4.1. If the actually calculated M3 and M4 values are higher than the M3 and

M4 previously paid, Interconnection Customer shall pay any difference between the M3 and M4 previously paid and the actually calculated values within thirty (30) Calendar Days of those amounts being calculated by the Transmission Provider. Failure to pay any difference between the calculated M3 and M4 and the initially paid M3 and M4 within thirty (30) Calendar Days shall result in automatic withdrawal of the Interconnection Request. If the actually calculated M3 and M4 values are lower than the M3 and M4 previously paid, Transmission Provider shall refund any difference between the M3 and M4 previously paid and the actually calculated values.

#### **7.9.2 Consent to Proceed Through Definitive Planning Phase Decision Points**

Interconnection Customers seeking a Provisional Generator Interconnection Agreement automatically consent to the Transmission Provider moving the Interconnection Request through Definitive Planning Phases II and III without regard to Interconnection Customer Decision Point II unless notification of withdrawal is provided to the Transmission Provider.

#### **7.9.3 Withdrawal**

Interconnection Customers seeking a Provisional Generator Interconnection Agreement are eligible to receive one hundred percent (100%) refund of all Definitive Planning Phase milestones (M2, M3, and M4) only when the Interconnection Request is withdrawn prior to the start of Definitive Planning Phase I and unencumbered study deposits remaining, except as noted in Section 4.1.2.3. Interconnection Customers seeking a Provisional Generator Interconnection Agreement at the time of Interconnection Request submission may withdraw before the end of Interconnection Customer Decision Point I and Transmission Provider will

refund forty percent (40%) of the Definitive Planning Phase entry milestone (M2), all of the Definitive Planning Phase Milestone payments M3 and M4, and unencumbered study deposits remaining. Sixty percent (60%) of the Definitive Planning Phase entry Milestone (M2) becomes non – refundable pursuant to section 7.6.2.1.1 and Section 7.8 of the GIP. After Interconnection Customer Decision Point I, Interconnection Customers seeking a Provisional Generator Interconnection Agreement may withdraw from the Transmission Provider’s interconnection queue at any time, but all Definitive Planning Phase milestones (M2, M3, and M4) become non-refundable pursuant to section 7.6.2.1.1 and Section 7.8, and will be used in accordance to Section 7.8 and Section 7.8.1. Interconnection Customers seeking a Provisional Generator Interconnection Agreement shall not be eligible for any milestone payment refunds provided under Section 7.6.2.4.

#### **7.9.4 Reversion to Standard Definitive Planning Phase Process**

Interconnection Customers seeking a Provisional Generator Interconnection Agreement may notify Transmission Provider before and during Interconnection Customer Decision Point I that the Interconnection Customer wishes to revert to the standard Definitive Planning Phase process. Transmission Provider will subsequently refund the Definitive Planning Phase III (M4) milestone payment. Interconnection Customer must then continue to abide by all Definitive Planning Phase requirements.

### **SECTION 8. {RESERVED}**

### **SECTION 9. ENGINEERING & PROCUREMENT (“E&P”) AGREEMENT.**

Prior to executing an GIA, an Interconnection Customer may, in order to advance the implementation of its interconnection, request and Transmission Provider

shall offer Interconnection Customer, an E&P Agreement that authorizes Transmission Owner to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection. However, Transmission Provider shall not be obligated to offer an E&P Agreement if Interconnection Customer is in Dispute Resolution as a result of an allegation that Interconnection Customer has failed to meet any milestones or comply with any prerequisites specified in other parts of the GIP. The E&P Agreement is an optional procedure and it will not alter the Interconnection Customer's Definitive Planning Phase Queue Position or In-Service Date. The E&P Agreement shall provide for Interconnection Customer to pay the cost of all activities authorized by Interconnection Customer and to make advance payments or provide other satisfactory security for such costs.

Interconnection Customer shall pay the cost of such authorized activities and any cancellation costs for equipment that is already ordered for its Interconnection Request, which cannot be mitigated as hereafter described, whether or not such items or equipment later become unnecessary. If Interconnection Customer withdraws its application for interconnection or a Party to the E&P Agreement terminates the E&P Agreement, to the extent the equipment ordered can be canceled under reasonable terms, Interconnection Customer shall be obligated to pay the associated cancellation costs. To the extent that the equipment cannot be reasonably canceled, Transmission Owner may elect: (i) to take title to the equipment, in which event Transmission Owner shall refund Interconnection Customer any amounts paid by Interconnection Customer for such equipment and shall pay the cost of delivery of such equipment, or (ii) to transfer title to and deliver such equipment to Interconnection Customer, in which event Interconnection Customer shall pay any unpaid balance and cost of delivery of such equipment.

## **SECTION 10. OTHER INTERCONNECTION STUDIES.**

## **10.1 Optional Interconnection Study**

### **10.1.1 Optional Interconnection Study Agreement.**

Optional Interconnection Studies are for informational purposes only and are to be completed within an agreed upon time period using Reasonable Efforts. The request for an Optional Interconnection Study can be made on a stand-alone basis or in parallel with the processing of valid Interconnection Request. The request shall describe the assumptions that Interconnection Customer or MHVDC Connection Customer wishes Transmission Provider to study within the scope described in Section 10.1.2. Within five (5) Business Days after receipt of a request for an Optional Interconnection Study, Transmission Provider shall provide to Interconnection Customer an Optional Interconnection Study Agreement in the form of Appendix 5.

The Optional Interconnection Study Agreement shall: (i) specify the technical data that Interconnection Customer or MHVDC Connection Customer must provide for each phase of the Optional Interconnection Study, and (ii) specify Interconnection Customer's or MHVDC Connection Customer's assumptions as to which Interconnection Requests with earlier queue priority dates will be excluded from the Optional Interconnection Study case and assumptions as to the type of Interconnection Service for Interconnection Requests remaining in the Optional Interconnection Study case. Notwithstanding the above, Transmission Provider shall not be required as a result of an Optional Interconnection Study request to conduct any additional Interconnection Studies with respect to any other Interconnection Request and shall continue processing the Interconnection Request in accordance with these GIP.

Interconnection Customer or MHVDC Connection Customer shall execute the Optional Interconnection Study Agreement within ten (10) Business Days of receipt and deliver the Optional Interconnection Study Agreement, the technical data and a deposit equal to sixty thousand dollars (\$60,000.00) to Transmission Provider.

#### **10.1.2 Scope of Optional Interconnection Study.**

The Optional Interconnection Study will consist of a sensitivity analysis based on the assumptions specified by Interconnection Customer or MHVDC Connection Customer in the Optional Interconnection Study Agreement. The Optional Interconnection Study will also identify the Transmission Owner's Interconnection Facilities, System Protection Facilities, Distribution Upgrades, Generator Upgrades, Common Use Upgrades, and the Network Upgrades, and the estimated cost thereof, that may be required to provide transmission service or Interconnection Service based upon the results of the Optional Interconnection Study. The Optional Interconnection Study shall be performed solely for informational purposes. Transmission Provider shall use Reasonable Efforts to coordinate the study with any Affected Systems that may be affected by the types of Interconnection Services that are being studied. Transmission Provider shall utilize existing studies to the extent practicable in conducting the Optional Interconnection Study.

#### **10.1.3 Optional Interconnection Study Procedures.**

The executed Optional Interconnection Study Agreement, the prepayment, and technical and other data called for therein must be provided to Transmission Provider within ten (10) Business Days of Interconnection Customer or MHVDC Connection Customer receipt of the Optional Interconnection Study Agreement. Transmission Provider shall use Reasonable Efforts to complete the Optional Interconnection Study within

a mutually agreed upon time period specified within the Optional Interconnection Study Agreement. If Transmission Provider is unable to complete the Optional Interconnection Study within such time period, it shall notify Interconnection Customer or MHVDC Connection Customer and provide an estimated completion date and an explanation of the reasons why additional time is required. Any difference between the study payment and the actual cost of the study shall be paid to Transmission Provider or refunded to Interconnection Customer, as appropriate. Upon request, Transmission Provider shall provide Interconnection Customer or MHVDC Connection Customer supporting documentation and workpapers and databases or data developed in the preparation of the Optional Interconnection Study, subject to confidentiality arrangements consistent with Section 13.1.

## **10.2 Provisional Interconnection Study**

### **10.2.1 Scope of Provisional Interconnection Study**

The Provisional Interconnection Study will consist of stability, short circuit, and voltage analysis to identify issues that would result if the Generating Facility were interconnected without project modifications or system modifications. The Provisional Interconnection Study will also identify the Transmission Owner's Interconnection Facilities, System Protection Facilities, Distribution Upgrades, Generator Upgrades, Common Use Upgrades, and the Network Upgrades, and the estimated cost thereof, that may be required to provide Energy Resource Interconnection Service on a provisional basis based upon the results of the Provisional Interconnection Study. Transmission Provider shall use Reasonable Efforts to coordinate the study with any Affected Systems that may be affected by the type of Interconnection Service that is being studied. Transmission Provider shall utilize existing studies to the extent

practicable in conducting the Provisional Interconnection Study.

#### **10.2.2 Provisional Interconnection Study Procedures**

Transmission Provider must receive the information and milestones as described in Sections 7.9 and 7.9.1 prior to beginning the Provisional Interconnection Study. Transmission Provider shall use Reasonable Efforts to complete the Provisional Interconnection Study within a mutually agreed upon time. If Transmission Provider is unable to complete the Provisional Interconnection Study within such time period, it shall notify Interconnection Customer or MHVDC Connection Customer and provide an estimated completion date and an explanation of the reasons why additional time is required. Actual cost of the Provisional Interconnection Study shall be paid by Interconnection Customer or MHVDC Connection Customer pursuant to Section 7.6.1. Upon request, Transmission Provider shall provide Interconnection Customer or MHVDC Connection Customer supporting documentation and workpapers and databases or data developed in the preparation of the Provisional Interconnection Study, subject to confidentiality arrangements consistent with Section 13.1.

### **SECTION 11. GENERATOR INTERCONNECTION AGREEMENT (GIA), FACILITIES CONSTRUCTION AGREEMENT (FCA), AND MULTI- PARTY FACILITIES CONSTRUCTION AGREEMENT (MPFCA).**

#### **11.1 Tender.**

Except as provided in Section 11.1.1, Transmission Provider shall tender to the Interconnection Customer a draft GIA and, as applicable, draft JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s), together with draft appendices completed to the extent practicable, within five (5) Business Days after issuance of the applicable first portion of the Interconnection Facilities Study report and



Final System Impact Study report.

Throughout this Section 11, the applicable Interconnection Facilities Study for a GIA shall be the Interconnection Facilities Study that was initiated for that project in DPP Phase II. For EGIAs, this shall be the applicable Interconnection Facilities Study initiated through ERAS. Throughout this Section 11, the applicable Interconnection Facilities Study for a Network Upgrade that is addressed in a FCA or MPFCA shall be the Interconnection Facilities Study performed for that Network Upgrade.

At the request of any Party, and except for Interconnection Requests for an ERAS, Transmission Provider shall tender to the Interconnection Customer a draft GIA and, as applicable, JTIQ Service Agreement(s), draft FCA(s), together with draft appendices completed to the extent practicable, within ten (10) Calendar Days of receiving such request, provided such request is received after the completion of Interconnection Customer Decision Point II and issuance of the draft Phase II Interconnection Facilities Study. The draft GIA and, as applicable, draft FCA and the Transmission Provider's JTIQ Service Agreement(s), shall be in the form of the Transmission Provider's current *pro forma*. In the event that SPP's JTIQ Service Agreement has not been provided to Interconnection Customer prior to tender of a draft GIA, the draft GIA shall include a milestone in Appendix B obligating Interconnection Customer to execute or request the unexecuted filing of SPP's JTIQ Service Agreement not later than 15 Calendar Days after such agreement has been tendered to the Interconnection Customer.

#### **11.1.1 Common Use Upgrades and Multi-Party Facilities Construction Agreements.**

In the event that the Final System Impact Study report indicates that more than one Interconnection Request causes the need for Network Upgrades or System

Protection Facilities, Transmission Provider shall determine whether such Network Upgrades or System Protection Facilities are Common Use Upgrades requiring the use of a MPFCA. No later than ten (10) Calendar Days after issuance of the Final System Impact Study report and the applicable final Interconnection Facilities Study reports for each of the projects that are a part of the MPFCA, Transmission Provider shall tender the draft MPFCA to all Interconnection Customers that create the need and share the responsibility for the Common Use Upgrade. If Transmission Provider determines that an Interconnection Customer should be added to an MPFCA as a party, Transmission Provider shall tender a draft MPFCA to the prospective Interconnection Customer and include the prospective Interconnection Customer in Group Studies as applicable.

Upon the written request of all Interconnection Customers that are Party to the MPFCA, Transmission Provider shall tender the MPFCA within ten (10) Calendar Days of receiving such written request, provided such request is received after issuance of: (i) the Final System Impact Study report; and (ii) the applicable draft Interconnection Facilities Study reports for each of the projects that are a part of the MPFCA.

## **11.2 Negotiation.**

Interconnection Customer and Transmission Owner shall return comments on the draft GIA, and as applicable, JTIQ Service Agreement(s), draft FCA(s) and/or MPFCA(s) within twenty (20) Business Days, or for Interconnection Requests in an ERAS five (5) Business Days, of receipt of the draft GIA, and as applicable, draft FCA(s) and/or MPFCA(s), along with the completion of the parts of the appendices for which Interconnection Customer is responsible. Within ten (10) Business Days after the comments are submitted, or for Interconnection Requests in an ERAS five (5) Business Days, Transmission Provider shall tender a revised draft GIA, and as applicable, draft FCA(s) and/or MPFCA(s) to the Parties,

together with draft appendices.

The Parties shall begin negotiations concerning the appendices to the GIA, and, as applicable, FCA(s) and/or MPFCA(s) upon tender of the draft GIA, and as applicable, draft FCA(s) and/or MPFCA(s) to the Parties in accordance with the terms of Section 11.1 of this GIP. Except as provided in Section 11.2.1 of this GIP, Transmission Provider, Transmission Owner, and Interconnection Customer shall negotiate the GIA for no more than forty (40) Business Days after issuance of the Final System Impact Study report. For Interconnection Requests in an ERAS twenty (20) Business Days from notice to proceed in Section 3.9.4 of these GIP. Transmission Provider, Transmission Owner, and Interconnection Customer shall negotiate draft FCA(s) and/or MPFCA(s) for no more than forty (40) Business Days after issuance of the applicable final Interconnection Facilities Study Reports applicable to the FCA(s) and/or MPFCA(s) that are subject to negotiation and the Final System Impact Study report.

If Interconnection Customer, Transmission Owner or Transmission Provider determines that negotiations are at an impasse, it may request termination of the negotiations by providing written notice to the other parties at any time after tender of the draft GIA, and, as applicable, JTIQ Service Agreement(s), draft FCA(s) and/or MPFCA(s) pursuant to Section 11.1 and request submission of the unexecuted GIA, and, as applicable, JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) with FERC or initiate Dispute Resolution procedures pursuant to Section 13.5. The Interconnection Customer, Transmission Owner or Transmission Provider may request such termination and request for an unexecuted filing during the negotiation period established in this Section 11.2 and under the negotiation period established in Section 11.2.1 of this GIP, as applicable. If an Interconnection Customer requests termination of its negotiations, but within thirty (30) Calendar Days thereafter fails to request the filing of the unexecuted GIA, and, as applicable, tendered JTIQ Service

Agreement(s), FCA(s) and/or MPFCA(s), it shall be deemed to have withdrawn its Interconnection Request.

#### **11.2.1 Optional negotiation period adjustment for Interconnection Facilities Study.**

Except for Interconnection Requests in an ERAS, the Interconnection Customer may postpone the start of the negotiation period for the GIA, and as applicable, draft FCA(s) and/or MPFCA(s), until the issuance of the applicable final Interconnection Facilities Study report. Interconnection Customer shall make such election by providing written notice to the Transmission Provider prior to the posting of the Final System Impact Study report. If Interconnection Customer makes such election, Transmission Provider, Transmission Owner, and Interconnection Customer shall negotiate the GIA and as applicable, JTIQ Commitment Agreements, draft FCA(s) and/or MPFCA(s), for no more than forty (40) Business Days after issuance of the final applicable Interconnection Facilities Study.

### **11.3 Execution and Filing.**

Transmission Provider shall provide to Interconnection Customer and Transmission Owner a final GIA, and, as applicable, final JTIQ Service Agreement(s), final FCA(s) and/or final MPFCA(s) prepared for execution by the parties within fifteen (15) Business Days after the completion of the forty (40) Business Day negotiation period in accordance with Section 11.2 of this GIP. For Interconnection Requests for an ERAS, the Transmission Provider shall provide to Interconnection Customer and Transmission Owner a final EGIA within ten (10) Business Days after the completion of the negotiation period in accordance with Section 11.2 of this GIP. Within forty-five (45) Calendar Days of tender of the final GIA, and, as applicable, final JTIQ Service Agreement(s), final FCA(s) and final MPFCA(s), Interconnection Customer and Transmission Owner shall either: (i) execute the tendered GIA, and, as applicable, final JTIQ Service

Agreement(s), FCA(s) and/or MPFCA(s); or (ii) request in writing that Transmission Provider file with FERC the GIA, and, as applicable, JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) in unexecuted form.

If Interconnection Customer has neither executed the GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s), nor requested filing of the GIA, and, as applicable, JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) in unexecuted form within forty-five (45) Calendar Days, or for Interconnection Requests in an ERAS ten (10) Business Days of tender of the final GIA, and, as applicable, JTIQ Service Agreement(s), final FCA(s) and final MPFCA(s), Interconnection Customer shall be deemed to have withdrawn its Interconnection Request. The Interconnection Customer's forty-five (45) Calendar Day deadline for execution will not reset in the event that an additional change is made to the GIA, JTIQ Service Agreement(s), FCA, or MPFCA after circulation for execution.

Within ten (10) Business Days after receiving from the Interconnection Customer(s) and the Transmission Owner either the executed tendered GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) or the request to file an unexecuted GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s), Transmission Provider shall file the GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) with FERC, together with its explanation of any matters as to which Interconnection Customer, Transmission Owner and Transmission Provider disagree and support for the costs that Transmission Owner proposes to charge to Interconnection Customer under the GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s). An unexecuted GIA, and, as applicable, JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s), shall contain terms and conditions deemed appropriate by Transmission Provider for the Interconnection Request.

Within one-hundred and eighty (180) Calendar Days after receipt of the final GIA Interconnection Customer shall provide Transmission Provider with reasonable evidence that one or more of the following milestones in the development of the Generating Facility has been achieved: (i) the execution of a contract for the supply or transportation of fuel to the Generating Facility; (ii) the execution of a contract for the supply of cooling water to the Generating Facility; (iii) execution of a contract for the engineering for, procurement of major equipment for, or construction of, the Generating Facility; (iv) execution of a contract for the sale of electric energy or capacity from the Generating Facility, or a statement signed by an authorized officer from or agent of Interconnection Customer attesting that Interconnection Customer owns the Generating Facility and it is required to serve load; or (v) documentation of application for all necessary state and local air, water, land, federal nuclear, and/or Environmental Law permits and that the application is proceeding per regulations.

#### **11.4 Commencement of Interconnection Activities.**

If Interconnection Customer executes the final GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) Transmission Provider, Transmission Owner and Interconnection Customer shall perform their respective obligations in accordance with the terms of the GIA, and, as applicable, tendered JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s), subject to modification by FERC. Unless otherwise agreed by all Parties, upon submission of an unexecuted GIA, and, as applicable, unexecuted tendered JTIQ Service Agreement(s), unexecuted FCA(s) and/or unexecuted MPFCA(s), the Parties shall promptly comply with the unexecuted GIA, and, as applicable, unexecuted JTIQ Service Agreement(s), unexecuted FCA(s) and/or unexecuted MPFCA(s), subject to modification by FERC. As applicable, compliance with the terms of such unexecuted JTIQ Service Agreement(s), FCA(s) and/or MPFCA(s) or execution and performance under a JTIQ Service Agreement(s), FCA and/or MPFCA will

be a requirement under the GIA.

#### **11.5 Special Considerations.**

The maximum permissible output of the Generating Facility in the Provisional Generator Interconnection Agreement will be updated on a quarterly basis, and determined by finding the transfer limit of energy commensurate with the analysis for Energy Resource Interconnection Service. This study shall be performed assuming the system topology represented by the base cases used to calculate Available Flowgate Capability as described in Attachment C of this Tariff with dispatch and optimization algorithms posted on the MISO internet site. Limits will be posted on the Transmission Provider's OASIS site, and operation above those limits will be deemed as unauthorized use of the transmission system and subject to provisions in this Tariff surrounding that use. Interconnection Customer assumes all risks and liabilities with respect to changes, which may impact the Generator Interconnection Agreement including, but not limited to, change in output limits and future Network Upgrade cost responsibilities.

#### **11.6 Quarterly Operating Limit Studies.**

Interconnection Customers subject to Quarterly Operating Limits shall be responsible for the cost of performing the required quarterly studies.

Interconnection Customers shall submit a Quarterly Operating Limit study deposit in the amount of \$10,000 sixty (60) Calendar Days prior to the start of the first applicable binding quarter. Any difference between the study deposit and the actual cost of the applicable Quarterly Operating Limit studies shall be paid by, or refunded to, the Interconnection Customer. MISO will refund any difference the quarter following the Interconnection Customer no longer being subject to Quarterly Operating Limits.

### **SECTION 12. CONSTRUCTION OF TRANSMISSION OWNER'S OR AFFECTED SYSTEM TRANSMISSION OWNER'S INTERCONNECTION**

## **FACILITIES, SYSTEM PROTECTION FACILITIES, DISTRIBUTION UPGRADES AND NETWORK UPGRADES.**

### **12.1 Schedule.**

Transmission Owner, Interconnection Customer, and, as applicable, Interconnection Customers in an MPFCA and a Transmission Owner that is an Affected System and, at its election, Transmission Provider shall negotiate in good faith concerning a schedule for the construction of the Transmission Owner's Interconnection Facilities, System Protection Facilities, Distribution Upgrades, Network Upgrades, Common Use Upgrades, and the Stand-Alone Network Upgrades, excluding JTIQ Upgrades. Interconnection Customer and Transmission Owner shall each provide the other Parties its detailed construction schedule.

### **12.2 Construction Sequencing.**

#### **12.2.1 General**

In general, the In-Service Date of an Interconnection Customer seeking interconnection to the Transmission System will determine the sequence of construction of Transmission Owner's Interconnection Facilities, System Protection Facilities, Distribution Upgrades, if any, and Network Upgrades, including any Common Use Upgrades. If the time required to build the facilities described in the GIA, and, as applicable, FCA(s) and/or MPFCA(s), excluding JTIQ Upgrades, is greater than the time between execution of the GIA, and, as applicable, FCA(s) and/or MPFCA(s) and the requested In-Service Date, the In-Service Date will be adjusted through the milestones delineated in the GIA, and as applicable, FCA(s) and/or MPFCA(s) appendices prior to the execution of the Generator Interconnection Agreement.



**12.2.2 Advance Construction of Network Upgrades, System Protection Facilities, Distribution Upgrades or Generator Upgrades that are an Obligation of an Entity other than Interconnection Customer**

An Interconnection Customer with a GIA, and, as applicable, FCA(s) and/or MPFCA(s), in order to maintain its In-Service Date, may request that Transmission Owner advance to the extent necessary the completion of Network Upgrades, System Protection Facilities or Distribution Upgrades that: (i) were assumed in the Interconnection Studies for such Interconnection Customer, (ii) are necessary to support such In-Service Date, and (iii) would otherwise not be completed, pursuant to a contractual obligation of an entity other than Interconnection Customer that is seeking interconnection to the Transmission System, in time to support such In-Service Date. Upon such request, Transmission Owner will use Reasonable Efforts to advance the construction of such Network Upgrades, System Protection Facilities or Distribution Upgrades, to the extent it is obligated for any such construction, to accommodate such request; provided that Interconnection Customer commits to pay Transmission Owner: (i) any associated expediting costs and (ii) the cost of such Network Upgrades, System Protection Facilities or Distribution Upgrades. Transmission Owner will refund to Interconnection Customer both the expediting costs and the cost of Network Upgrades, in accordance with Article 11.4 of the GIA, and, as applicable, FCA(s) and/or MPFCA(s). Consequently, the entity with a contractual obligation to construct such Network Upgrades shall be obligated to pay only that portion of the costs of the Network Upgrades that Transmission Owner has not refunded to Interconnection Customer. Payment by that entity shall be due on the date that it would have been due had there been no request for advance construction. Transmission Owner shall forward to Interconnection Customer (with copy to Transmission Provider) the amount paid by the entity with a contractual

obligation to construct the Network Upgrades as payment in full for the outstanding balance owed to Interconnection Customer. Transmission Owner then shall refund to that entity the amount that it paid for the Network Upgrades, in accordance with Article 11.4 of the GIA, and, as applicable, FCA(s) and/or MPFCA(s).

**12.2.3 Advancing Construction of Network Upgrades that are Part of an Expansion Plan of Transmission Provider**

An Interconnection Customer with a GIA, and, as applicable, FCA(s) and/or MPFCA(s), in order to maintain its In-Service Date, may request that Transmission Owner advance to the extent necessary the completion of Network Upgrades, System Protection Facilities or Distribution Upgrades that: (i) are necessary to support such In-Service Date, including those listed as a contingent element in the Interconnection Customer's GIA, and, as applicable, FCA(s) and/or MPFCA(s); and (ii) would otherwise not be completed, pursuant to an expansion plan of Transmission Provider, in time to support such In-Service Date. Upon such request, Transmission Owner will use Reasonable Efforts to advance the construction of such Network Upgrades, System Protection Facilities or Distribution Upgrades to accommodate such request; provided that Interconnection Customer commits to pay Transmission Owner any associated expediting costs. Interconnection Customer shall be entitled to transmission credits, if any per Attachment FF, for any expediting costs paid associated with the Network Upgrades.

**12.2.4 Amended Interconnection System Impact and/or Interconnection Facilities Study**

The Interconnection System Impact Study resulting from the Definitive Planning Phase and/or Interconnection Facilities Study(ies) will be amended to determine the facilities necessary to support the requested

In-Service Date. Any amended study will follow the procedures provided in the GIP, as applicable, regarding such study and study cost, and include those transmission and Generating Facilities that are expected to be in service on or before the requested In-Service Date.

## **SECTION 13. MISCELLANEOUS.**

### **13.1 Confidentiality.**

Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by any Party to another Party prior to the execution of a GIA, and, as applicable, FCA(s) and/or MPFCA(s).

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by the receiving Party, the disclosing Party shall provide in writing, the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

#### **13.1.1 Scope**

Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving

Party without restriction by a non-Party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of the GIA, and, as applicable, FCA(s) and/or MPFCA(s); or (6) is required, in accordance with Section 13.1.6, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under the GIA, and, as applicable, FCA(s) and/or MPFCA(s). Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the receiving Party that it no longer is confidential.

#### **13.1.2 Release of Confidential Information**

No Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements) employees, agents, consultants, or to non-parties who may be or considering providing financing to or equity participation with Interconnection Customer or MHVDC Connection Customer, or to potential purchasers or assignees of Interconnection Customer or MHVDC Connection Customer, on a need-to-know basis in connection with these procedures, unless such person has first been advised of the confidentiality provisions of this Section 13.1 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Section 13.1.

#### **13.1.3 Rights**

Each Party retains all rights, title, and interest in the Confidential Information that it discloses to the receiving Party. The disclosure by a Party to the receiving Party of Confidential Information shall not be deemed a waiver by the disclosing Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

#### **13.1.4 No Warranties**

By providing Confidential Information, no Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, no Party obligates itself to provide any particular information or Confidential Information to another Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

#### **13.1.5 Standard of Care**

Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to another Party under these procedures or its regulatory requirements.

#### **13.1.6 Order of Disclosure**

If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires any Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the disclosing Party with prompt notice of such request(s) or requirement(s) so that the disclosing Party may seek an appropriate protective order or waive compliance with the terms of the

GIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

#### **13.1.7 Remedies**

The Parties agree that monetary damages would be inadequate to compensate a Party for another Party's breach of its obligations under this Section 13.1. Each Party accordingly agrees that the disclosing Party shall be entitled to equitable relief, by way of injunction or otherwise, if the receiving Party breaches or threatens to breach its obligations under this Section 13.1, which equitable relief shall be granted without bond or proof of damages, and the breaching Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the breach of this Section 13.1, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Section 13.1.

#### **13.1.8 Disclosure to FERC, Its Staff, or a State.**

Notwithstanding anything in this Section 13.1 to the contrary, and pursuant to 18 C.F.R Section 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from a Party that is otherwise required to be maintained in confidence pursuant to these GIP, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing

the information to FERC or its staff, the Party must, consistent with 18 C.F.R. Section 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. The Party is prohibited from notifying the other Parties prior to the release of the Confidential Information to the Commission or its staff. The Party shall notify the other Parties to the GIA when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time any of the Parties may respond before such information would be made public, pursuant to 18 C.F.R. Section 388.112.

Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner, consistent with applicable state rules and regulations.

**13.1.9** Subject to the exception in Section 13.1.8, any information that a disclosing Party claims is competitively sensitive, commercial or financial information (“Confidential Information”) shall not be disclosed by the receiving Party to any person not employed or retained by the receiving Party, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the disclosing Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under the GIP or as the Regional Transmission Organization or a Local Balancing Authority operator including disclosing the Confidential Information to a subregional, regional or national reliability organization or planning group. The Party asserting confidentiality shall notify the receiving Party in writing of the information that Party claims is confidential. Prior to any disclosures of

that Party's Confidential Information under this subparagraph, or if any non-Party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the receiving Party agrees to promptly notify the disclosing Party in writing and agrees to assert confidentiality and cooperate with the disclosing Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

**13.1.10** This provision shall not apply to any information that was or is hereafter in the public domain (except as a result of a breach of this provision).

**13.1.11** At the Interconnection Customer's or MHVDC Connection Customer's election, Transmission Provider shall cause the party in lawful possession of Confidential Information to, destroy, in a confidential manner, or return the Confidential Information provided at the time of Confidential Information is no longer needed.

**13.2 Delegation of Responsibility.**

Transmission Provider may use the services of subcontractors as it deems appropriate to perform its obligations under the GIP. Transmission Provider shall remain primarily liable to Interconnection Customer or MHVDC Connection Customer for the performance of such subcontractors and compliance with its obligations of the GIP. The subcontractor shall keep all information provided confidential and shall use such information solely for the performance of such obligation for which it was provided and for no other purpose.

**13.3 Obligation for Study Costs.**

Transmission Provider shall charge and Interconnection Customer or MHVDC Connection Customer shall pay the actual costs of the Interconnection Studies. Any difference between the study deposit and the actual cost of the applicable



Interconnection Study shall be paid by or refunded, except as otherwise provided herein, to Interconnection Customer or MHVDC Connection Customer or offset against the cost of any future Interconnection Studies associated with the applicable Interconnection Request prior to beginning of any such future Interconnection Studies. Any invoices for Interconnection Studies shall include a detailed and itemized accounting of the cost of each Interconnection Study. Interconnection Customer or MHVDC Connection Customer shall pay any such undisputed costs within thirty (30) Calendar Days of receipt of an invoice. Transmission Provider shall not be obligated to perform or continue to perform any studies unless Interconnection Customer or MHVDC Connection Customer has paid all undisputed amounts in compliance herewith.

In the event Interconnection Customer's or MHVDC Connection Customer's project is withdrawn, terminated or suspended, Transmission Provider shall not be required to refund any unused portion of the study deposit paid to enter the Definitive Planning Phase that is necessary to account for study costs associated with the project or restudy costs associated with any affected lower-queued projects, any other project with which Interconnection Customer's or MHVDC Connection Customer's project shares responsibility for funding a Common Use Upgrade, or, in the event the project is included in a Group Study, any other affected projects in the Group Study. Unused study deposits from the Definitive Planning Phase that are not otherwise required due to the withdrawals, termination or suspension of the project will be refunded upon Commercial Operation.

#### **13.4 Non-Parties Conducting Studies.**

If (i) at the time of the signing of an Interconnection Study Agreement there is disagreement as to the estimated time to complete an Interconnection Study, (ii) Interconnection Customer or MHVDC Connection Customer receives notice pursuant to the GIP that Transmission Provider will not complete an

Interconnection Study within the applicable timeframe for such Interconnection Study, or (iii) Interconnection Customer or MHVDC Connection Customer receives neither the Interconnection Study nor a notice under the GIP within the applicable timeframe for such Interconnection Study, then Interconnection Customer or MHVDC Connection Customer may require Transmission Provider or its agent to utilize a consultant reasonably acceptable to Interconnection Customer or MHVDC Connection Customer and Transmission Provider to perform such Interconnection Study under the direction of Transmission Provider. At other times, Transmission Provider may also utilize a consultant to perform such Interconnection Study, either in response to a general request of Interconnection Customer or MHVDC Connection Customer, or on its own volition.

In all cases, use of a consultant shall be in accord with Article 26 of the GIA (subcontractors), and, as applicable, FCA(s) and/or MPFCA(s) and limited to situations where Transmission Provider determines that doing so will help maintain or accelerate the study process for the Interconnection Customer's or MHVDC Connection Customer's pending Interconnection Request and not interfere with the Transmission Provider's progress on Interconnection Studies for other pending Interconnection Requests. In cases where Interconnection Customer or MHVDC Connection Customer requests use of a consultant to perform such Interconnection Study, Interconnection Customer or MHVDC Connection Customer and Transmission Provider shall negotiate all of the pertinent terms and conditions, including reimbursement arrangements and the estimated study completion date and study review deadline. Transmission Provider shall convey all workpapers, data bases, study results and all other supporting documentation prepared to date with respect to the Interconnection Request as soon as soon as practicable upon Interconnection Customer's or MHVDC Connection Customer's request subject to the confidentiality provision in Section 13.1. In any case, such consultant contract may be entered into with

either Interconnection Customer or MHVDC Connection Customer or Transmission Provider at the Transmission Provider's discretion. In the case of (iii), Interconnection Customer or MHVDC Connection Customer maintains its right to submit a claim to Dispute Resolution to recover the costs of such consultant study. Such consultant shall be required to comply with the GIP, Article 26 of the GIA (subcontractors), and, as applicable, FCA(s) and/or MPFCA(s), and the relevant Tariff procedures and protocols as would apply if Transmission Provider were to conduct the Interconnection Study and shall use the information provided to it solely for purposes of performing such services and for no other purposes. Transmission Provider shall cooperate with such consultant and Interconnection Customer or MHVDC Connection Customer to complete and issue the Interconnection Study in the shortest reasonable time.

### **13.5 Disputes.**

#### **13.5.1 Submission.**

In the event any Party has a dispute, or asserts a claim, that arises out of or in connection with the GIA, or, as applicable, FCA(s) and/or MPFCA(s), the GIP, or their performance, such Party (the "disputing Party") shall provide the other Parties with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Parties. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other non-disputing Parties' receipt of the Notice of Dispute, such claim or dispute shall be submitted in accordance with the dispute resolution procedures of the Tariff. In the event the designated representatives are able to resolve the claim or dispute within the above-described thirty (30) Calendar Day

period, the disputing Party shall submit a written explanation of the resolution to the non-disputing Parties and shall obtain the written acknowledgement and acceptance from each non-disputing Party.

Disputes received after the GIA, or, as applicable, FCA(s) and/or MPFCA(s) has been tendered for execution pursuant to section 11.1 of this GIP will not affect any applicable deadline pursuant to Section 11.2 of this GIP.

### **13.5.2 Non-binding Dispute Resolution**

If a Party has submitted a Notice of Dispute pursuant to section 13.5.1, and the Parties are unable to resolve the claim or dispute through unassisted or assisted negotiations within the thirty (30) Calendar Days provided in that section, and the Parties cannot reach mutual agreement to pursue binding dispute resolution, a Party may request that Transmission Provider engage in non-binding dispute resolution pursuant to this section by providing written notice to the Transmission Provider and other Party (“Request for Non-binding Dispute Resolution”). Such request shall not require the agreement of any other Party to proceed. The process set forth in this section shall serve as an alternative to, and not a replacement of, any other dispute resolution procedures contained within Attachment HH or otherwise authorized by the Tariff. Within 30 days of receipt of a Request for Non-binding Dispute Resolution pursuant to this Section, the Transmission Provider shall appoint a neutral decision-maker that is an independent subcontractor that shall not have any current or past substantial business or financial relationships with either Party. Unless otherwise agreed by the Parties, the decision-maker shall render a decision within sixty (60) Calendar Days of appointment and shall notify the Parties in writing of such decision and reasons therefore. Such decision-

maker shall be authorized only to interpret and apply the provisions of the GIP, GIA, and as applicable, FCA(s) and/or MPFCA(s), and shall have no power to modify or change any provision of the GIP, GIA, FCA(s) or MPFCA(s) in any manner. The result reached in this process is not binding, but, unless otherwise agreed, the Parties may cite the record and decision in this Nonbinding Dispute Resolution Process in future dispute resolution processes under the Tariff, including in arbitration, or in a Federal Power Act section 206 complaint. Each Party shall be responsible for its own costs incurred during the process and the cost of the decision-maker shall be divided equally among each Party to the dispute. Non-binding dispute resolutions conducted pursuant to this section shall adhere to any procedural and timing requirements set forth in the Generator Interconnection Business Practices Manual unless all parties to such dispute agree to modify such rules.

### **13.6 Local Furnishing Bonds.**

#### **13.6.1 Transmission Owners That Own Facilities Financed by Local Furnishing Bonds.**

This provision is applicable only to a Transmission Owner that has financed facilities for the local furnishing of electric energy with tax-exempt bonds, as described in Section 142(f) of the Internal Revenue Code (“local furnishing bonds”). Notwithstanding any other provision of the GIP or GIA, and, as applicable, FCA(s) and/or MPFCA(s), Transmission Provider and Transmission Owner shall not be required to provide Interconnection Service to Interconnection Customer or MHVDC Connection Customer pursuant to this GIA and GIP if the provision of such Transmission Service would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance Transmission Owner’s facilities that would be used in providing such Interconnection Service.

### **13.6.2 Alternative Procedures for Requesting Interconnection Service.**

If Transmission Provider determines that the provision of Interconnection Service requested by Interconnection Customer or MHVDC Connection Customer could jeopardize the tax-exempt status of any local furnishing bond(s) used to finance Transmission Owner's facilities that would be used in providing such Interconnection Service. Transmission Provider shall notify Transmission Owner who then shall confirm the tax-exempt status of any local furnishing bond(s) used by Transmission Owner and shall advise Interconnection Customer or MHVDC Connection Customer and Transmission Provider within thirty (30) Calendar Days of Transmission Provider's notice to Transmission Owner. Interconnection Customer or MHVDC Connection Customer thereafter may renew its request for interconnection using the process specified in Article 5.2(ii) of the Transmission Provider's Tariff.

## **SECTION 14. FAST TRACK PROCESS.**

### **14.1 Applicability.**

The Fast Track Process is available to an Interconnection Customer proposing to interconnect its Small Generating Facility with the Transmission System if the Small Generating Facility is no larger than 5 MW and if the Interconnection Customer's proposed Small Generating Facility meets the codes, standards, and certification requirements of Appendix 3 of this GIP, or Transmission Provider has reviewed the design or tested the proposed Small Generating Facility and is satisfied that it is safe to operate.

#### **14.1.1 Capacity of the Small Generating Facility**

The Interconnection Request shall be evaluated using the maximum capacity that the Small Generating Facility is capable of injecting into the Transmission

Provider's electric system. However, if the maximum capacity that the Small Generating Facility is capable of injecting into the Transmission Provider's electric system is limited (e.g., through use of a control system, power relay(s), or other similar device settings or adjustments), then the Interconnection Customer must obtain the Transmission Provider's agreement, with such agreement not to be unreasonably withheld, that the manner in which the Interconnection Customer proposes to implement such a limit will not adversely affect the safety and reliability of the Transmission Provider's system. If the Transmission Provider does not so agree, then the Interconnection Request must be withdrawn or revised to specify the maximum capacity that the Small Generating Facility is capable of injecting into the Transmission Provider's electric system without such limitations. Furthermore, nothing in this section shall prevent a Transmission Provider from considering an output higher than the limited output, if appropriate, when evaluating system protection impacts.

## **14.2 Initial Review.**

Within fifteen (15) Business Days after Transmission Provider notifies Interconnection Customer it has received a complete Interconnection Request, Transmission Provider shall perform an initial review using the screens set forth below, shall notify Interconnection Customer of the results, and include with the notification copies of the analysis and data underlying the Transmission Provider's determinations under the screens.

### **14.2.1 Screens.**

**14.2.1.1** The proposed Small Generating Facility's Point of Interconnection must be on a portion of the Transmission System or Distribution System that is subject to the Transmission Provider's control under the Tariff.

**14.2.1.2** For interconnection of a proposed Small Generating Facility to a radial distribution circuit, the aggregated generation, including the proposed Small Generating Facility, on the circuit shall not exceed fifteen percent (15%) of the line section annual peak load as most recently measured at the relevant substation. A line section is that portion of a Transmission Provider controlled electric system connected to a customer bounded by automatic sectionalizing devices or the end of the distribution line.

**14.2.1.3** For interconnection of a proposed Small Generating Facility to the load side of spot network protectors, the proposed Small Generating Facility must use an inverter-based equipment package and, together with the aggregated other inverter-based generation, shall not exceed the smaller of five percent (5%) of a spot network's maximum load or 50 kW.

**14.2.1.4** The proposed Small Generating Facility, in aggregation with other generation on the distribution circuit, shall not contribute more than ten percent (10%) to the distribution circuit's maximum fault current at the point on the high voltage (primary) level nearest the proposed point of change of ownership.

**14.2.1.5** The proposed Small Generating Facility, in aggregate with other generation on the distribution circuit, shall not cause any distribution protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or Interconnection Customer equipment on the system to exceed eighty-seven and one half percent (87.5%) of the short circuit interrupting capability; nor shall the interconnection proposed for a circuit that already exceeds eighty-seven and one half (87.5%) of



the short circuit interrupting capability.

**14.2.1.6** Using the table below, determine the type of interconnection to a primary distribution line. This screen includes a review of the type of electrical service provided to the Interconnecting Customer, including line configuration and the transformer connection to limit the potential for creating over-voltages on the Transmission Provider's electric power system due to a loss of ground during the operating time of any anti-islanding function.

| <b>Primary Distribution Line Type</b> | <b>Type of Interconnection to Primary Distribution Line</b>   | <b>Result/Criteria</b> |
|---------------------------------------|---------------------------------------------------------------|------------------------|
| Three-phase, three wire               | 3-phase or single phase, phase-to-phase                       | Pass screen            |
| Three-phase, four wire                | Effectively-grounded 3 phase or Single-phase, line-to-neutral | Pass screen            |

**14.2.1.7** If the proposed Small Generating Facility is to be interconnected on single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed Small Generating Facility, shall not exceed 20 kW.

**14.2.1.8** If the proposed Small Generating Facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than twenty percent (20%) of the nameplate rating of the service transformer.

**14.2.1.9** The Small Generating Facility, in aggregate with other generation interconnected to the transmission side of a substation transformer feeding the circuit where the Small Generating Facility proposes to interconnect shall not exceed 10 MW in an area where there are

known, or posted, transient stability limitations to generating units located in the general electrical vicinity (*e.g.*, three or four transmission busses from the Point of Interconnection).

**14.2.1.10** No construction of facilities by Transmission Provider on its own system shall be required to accommodate the Small Generating Facility.

**14.2.2** If the proposed interconnection passes the screens, the Interconnection Request shall be approved and Transmission Provider will provide Interconnection Customer an executable interconnection agreement within five (5) Business Days after the determination.

**14.2.3** If the proposed interconnection fails the screens, but Transmission Provider determines that the Small Generating Facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards, Transmission Provider shall provide Interconnection Customer an executable interconnection agreement within five (5) Business Days after the determination.

**14.2.4** If the proposed interconnection fails the screens, but Transmission Provider does not or cannot determine from the initial review that the Small Generating Facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards unless Interconnection Customer is willing to consider minor modifications or further study, Transmission Provider shall provide Interconnection Customer with the opportunity to attend a customer options meeting.

### **14.3 Customer Options Meeting.**

If Transmission Provider determines the Interconnection Request cannot be

approved without (1) minor modifications at minimal cost, (2) a supplemental study or other additional studies or actions, or (3) incurring significant cost to address safety, reliability, or power quality problems, the Transmission Provider shall notify Interconnection Customer of that determination within five (5) Business Days after that determination and provide copies of all data and analyses underlying its conclusion. Within ten (10) Business Days of the Transmission Provider's determination, Transmission Provider shall offer to convene a customer options meeting with Transmission Provider to review possible Interconnection Customer facility modifications or the screen analysis and related results, to determine what further steps are needed to permit the Small Generating Facility to be connected safely and reliably. At the time of notification of the Transmission Provider's determination, or at the customer options meeting, Transmission Provider shall:

**14.3.1** Offer to perform facility modifications or minor modifications to the Transmission System (*e.g.*, changing meters, fuses, relay settings) and provide a non-binding good faith estimate of the limited cost to make such modifications to the Transmission System. If the Interconnection Customer agrees to pay for the modifications to the Transmission System, the Transmission Provider will provide the Interconnection Customer with an executable interconnection agreement within ten (10) Business Days of the customer options meeting; or

**14.3.2** Offer to perform a supplemental review in accordance with Section 14.4 and provide a non-binding good faith estimate of the costs of such review; or

**14.3.3** Obtain the Interconnection Customer's agreement to continue evaluating the Interconnection Request under the Attachment X Generator Interconnection Procedures.

#### **14.4 Supplemental Review.**

**14.4.1** To accept the offer of a supplemental review, Interconnection Customer shall agree in writing and submit a deposit for the estimated costs of the supplemental review in the amount of the Transmission Provider's good faith estimate of the costs of such review, both within 15 Business Days of the offer. If the written agreement and deposit have not been received by the Transmission Provider within that timeframe, the Interconnection Request shall continue to be evaluated under the Attachment X Generator Interconnection Procedures unless it is withdrawn by the Interconnection Customer.

**14.4.2** The Interconnection Customer may specify the order in which the Transmission Provider will complete the screens in section 14.4.4.

**14.4.3** The Interconnection Customer shall be responsible for the Transmission Provider's actual costs for conducting the supplemental review. The Interconnection Customer must pay any review costs that exceed the deposit within 20 Business Days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced costs, the Transmission Provider will return such excess within 20 Business Days of the invoice without interest.

**14.4.4** Within thirty (30) Business Days following receipt of the deposit for a supplemental review, the Transmission Provider shall (1) perform a supplemental review using the screens set forth below; (2) notify in writing the Interconnection Customer of the results; and (3) include with the notification copies of the analysis and data underlying the Transmission Provider's determinations under the screens. Unless the

Interconnection Customer provided instructions for how to respond to the failure of any of the supplemental review screens below at the time the Interconnection Customer accepted the offer of supplemental review, the Transmission Provider shall notify the Interconnection Customer following the failure of any of the screens, or if it is unable to perform the screen in section 14.4.4.1, within two Business Days of making such determination to obtain the Interconnection Customer's permission to: (1) continue evaluating the proposed interconnection under this section 14.4.4; (2) terminate the supplemental review and continue evaluating the Small Generating Facility (the Attachment X Generator Interconnection Procedures); or (3) terminate the supplemental review upon withdrawal of the Interconnection Request by the Interconnection Customer.

**14.4.4.1** Minimum Load Screen: Where 12 months of line section minimum load data (including onsite load but not station service load served by the proposed Small Generating Facility) are available, can be calculated, can be estimated from existing data, or determined from a power flow model, the aggregate Generating Facility capacity on the line section is less than 100% of the minimum load for all line sections bounded by automatic sectionalizing devices upstream of the proposed Small Generating Facility. If minimum load data is not available, or cannot be calculated, estimated or determined, the Transmission Provider shall include the reason(s) that it is unable to calculate, estimate or determine minimum load in its supplemental review results notification under section 14.4.4.

**14.4.4.1.1** The type of generation used by the proposed Small Generating Facility will be taken into account when calculating, estimating, or determining circuit or line

section minimum load relevant for the application of screen 14.4.1.1. Solar photovoltaic (PV) generation systems with no battery storage use daytime minimum load (i.e. 10 a.m. to 4 p.m. for fixed panel systems and 8 a.m. to 6 p.m. for PV systems utilizing tracking systems), while all other generation uses absolute minimum load.

**14.4.4.1.2** When this screen is being applied to a Small Generating Facility that serves some station service load, only the net injection into the Transmission Provider's electric system will be considered as part of the aggregate generation.

**14.4.4.1.3** Transmission Provider will not consider as part of the aggregate generation for purposes of this screen generating facility capacity known to be already reflected in the minimum load data.

**14.4.4.2** Voltage and Power Quality Screen: In aggregate with existing generation on the line section: (1) the voltage regulation on the line section can be maintained in compliance with relevant requirements under all system conditions; (2) the voltage fluctuation is within acceptable limits as defined by Institute of Electrical and Electronics Engineers (IEEE) Standard 1453, or utility practice similar to IEEE Standard 1453; and (3) the harmonic levels meet IEEE Standard 519 limits.

**14.4.4.3** Safety and Reliability Screen: The location of the proposed Small Generating Facility and the aggregate generation capacity

on the line section do not create impacts to safety or reliability that cannot be adequately addressed without application of the Study Process. The Transmission Provider shall give due consideration to the following and other factors in determining potential impacts to safety and reliability in applying this screen.

**14.4.4.3.1** Whether the line section has significant minimum loading levels dominated by a small number of customers (e.g., several large commercial customers).

**14.4.4.3.2** Whether the loading along the line section is uniform or even.

**14.4.4.3.3** Whether the proposed Small Generating Facility is located in close proximity to the substation (i.e., less than 2.5 electrical circuit miles), and whether the line section from the substation to the Point of Interconnection is a Mainline rated for normal and emergency ampacity.

**14.4.4.3.4** Whether the proposed Small Generating Facility incorporates a time delay function to prevent reconnection of the generator to the system until system voltage and frequency are within normal limits for a prescribed time.

**14.4.4.3.5** Whether operational flexibility is reduced by the proposed Small Generating Facility, such that transfer of the line section(s) of the Small Generating Facility to a neighboring distribution circuit/substation may trigger

overloads or voltage issues.

**14.4.4.3.6** Whether the proposed Small Generating Facility employs equipment or systems certified by a recognized standards organization to address technical issues such as, but not limited to, islanding, reverse power flow, or voltage quality.

**14.4.5** If the proposed interconnection passes the supplemental screens in sections 14.4.4.1, 14.4.4.2, and 14.4.4.3 above, the Interconnection Request shall be approved and the Transmission Provider will provide the Interconnection Customer with an executable interconnection agreement within the timeframes established in sections 14.4.5.1 and 14.4.5.2 below. If the proposed interconnection fails any of the supplemental review screens and the Interconnection Customer does not withdraw its Interconnection Request, it shall continue to be evaluated under the Attachment X Generator Interconnection Procedures consistent with section 14.4.5.3 below.

**14.4.5.1** If the proposed interconnection passes the supplemental screens in sections 14.4.1.1, 14.4.1.2, and 14.4.1.3 above and does not require construction of facilities by the Transmission Provider on its own system, the interconnection agreement shall be provided within ten Business Days after the notification of the supplemental review results.

**14.4.5.2** If interconnection facilities or minor modifications to the Transmission Provider's system are required for the proposed interconnection to pass the supplemental screens in sections 14.4.1.1, 14.4.1.2, and 14.4.1.3 above, and the Interconnection



Customer agrees to pay for the modifications to the Transmission Provider's electric system, the interconnection agreement, along with a non-binding good faith estimate for the interconnection facilities and/or minor modifications, shall be provided to the Interconnection Customer within 15 Business Days after receiving written notification of the supplemental review results.

**14.4.5.3** If the proposed interconnection would require more than interconnection facilities or minor modifications to the Transmission Provider's system to pass the supplemental screens in sections 14.4.1.1, 14.4.1.2, and 14.4.1.3 above, the Transmission Provider shall notify the Interconnection Customer, at the same time it notifies the Interconnection Customer with the supplemental review results, that the Interconnection Request shall be evaluated under the Attachment X Generator Interconnection Procedures unless the Interconnection Customer withdraws its Small Generating Facility.

**SECTION 15. PROVISIONS FOR CONNECTION TO HVDC FACILITIES  
SUBJECT TO SECTION 27A OF THE TARIFF.**

Interconnection Requests to HVDC Facilities that are subject to Section 27A of the Tariff shall follow the same process as detailed in Sections 2 through 13 of the GIP, except as specified in this Section 15.

**15.1 Availability of ER Interconnection Service and NR Interconnection Service  
for HVDC Facilities subject to Section 27A of this Tariff.**

ER Interconnection Service and NR Interconnection Service are both available for HVDC Facilities subject to Section 27A of this Tariff. In the case where

Interconnection Customer identified a point-to-point transmission service request under Section 27A of this Tariff, NR Interconnection Service will qualify the Generating Facility to be designated as a Network Resource so long as (and to the extent that) HVDC Service is confirmed across the HVDC Facilities. NR Interconnection Service will be limited to the confirmed megawatts in the transmission service request. When applicable, the HVDC Service requirement will be listed in Appendix A of the GIA, and such listing will be added during the negotiation phase of the document, as set forth in Section 11.2 of the GIP.

**SECTION 16. PROVISIONS FOR OBTAINING INJECTION RIGHTS AND  
THEIR CONVERSION TO EXTERNAL NETWORK RESOURCE  
INTERCONNECTION SERVICE**

**16.1 Request for Injection Rights**

MHDVC Connection Customers electing to request Injection Rights on the Transmission System pursuant to the procedures set forth in Section 3.2.3 of Attachment GGG to the Tariff shall make such requests for Injection Rights by submitting to Transmission Provider a completed Interconnection Request in the manner specified by the Generator Interconnection Business Practices Manual (BPM-015). The MHDVC Connection Customer must select “Injection Rights” in Appendix 1 and shall include all other relevant information required by Appendix 1 and its attachments. Requests for Injection Rights shall be studied and granted by Transmission Provider pursuant to the terms and conditions of the GIP, including requisite milestones and study deposits within the prescribed schedule deadlines.

Injection Rights serve as a pre-certification of the Transmission System’s capability to receive capacity and energy from the MHDVC Transmission Line at the requested Point of Connection, in the specified MW quantity, without degrading the reliability of the Transmission System. Injection Rights do not convey transmission service or Interconnection Service to the MHDVC Connection Customer or any other entity. Any such Injection Rights granted by

Transmission Provider, and any increases or reductions to those Injection Rights, shall be documented in Appendix F to the Transmission Connection Agreement. Requests for Injection Rights will be treated similar to requests for Interconnection Service from a queue priority perspective.

## **16.2 Conversion of Injection Rights to External Network Resource Interconnection Service**

Before an Interconnection Customer with an Existing Generating Facility that is external to the Transmission System may offer energy or capacity across the MHVDC Transmission Line into the MISO markets, the Injection Rights granted pursuant to Section 3.2.3 of Attachment GGG to the Tariff and this Section 16 must be converted to external Network Resource Interconnection Service and transferred to that Interconnection Customer. Upon the request of an Interconnection Customer with an Existing Generating Facility for external Network Resource Interconnection Service via the MHVDC Transmission Line, Transmission Provider will convert the Injection Rights to external Network Resource Interconnection Service in an amount up to, but not greater than, the capacity of the MHVDC Transmission Line, and transfer that amount of external Network Resource Interconnection Service to that Interconnection Customer, subject to the conditions set forth below.

Prior to effectuating this conversion, Transmission Provider must receive the following information:

- (a) from the Interconnection Customer seeking conversion:
  - (i) a request for external Network Resource Interconnection Service pursuant to Appendix 1 of Attachment X, by including the requested MW quantity to be converted and transferred;
  - (ii) documentation of the agreement between the Interconnection Customer and the MHVDC Connection Customer authorizing the conversion and transfer of the requested amount of Injection Rights;
  - (iii) documentation that the Interconnection Customer has long-term firm

- transmission service from the Existing Generating Facility to the Point of Connection, including any transmission service agreements over the MHVDC Transmission Line, that complies with the requirements included in the Service Agreement for Network Resources Interconnection Service for an Existing Generating Facility as set forth in Appendix 13 of Attachment X; and
- (b) from the MHVDC Connection Customer that holds the Injection Rights being converted:
- (i) documentation of the MHVDC Connection Customer's procedures for the allocation of Injection Rights to Interconnection Customers, which shall be non-discriminatory and consistent with the Commission's approval of the MHVDC Connection Customer's right to charge negotiated (market based) rates for service on the applicable MHVDC Transmission Line.

Upon receipt of the required information, Transmission Provider will convert the requested amount of the MHVDC Connection Customer's Injection Rights into external Network Resource Interconnection Service and grant the external Network Resource Interconnection Service to the Interconnection Customer, subject to the Interconnection Customer executing the Service Agreement for external Network Resource Interconnection Service for an Existing Generating Facility as set forth in Appendix 13 to Attachment X. All terms and conditions of such Service Agreement for external Network Resource Interconnection Service for an Existing Generating Facility and all the terms and conditions of Attachment X, including the rights to termination of Interconnection Service, shall apply to the Interconnection Customer's external Network Resource Interconnection Service granted under this Article 16. After conversion of the Injection Rights, Transmission Provider shall document any remaining Injection Rights in Appendix F of the MHVDC Connection Customer's Transmission Connection Agreement and shall post the Interconnection Customer's external Network Resource Interconnection Service pursuant to the posting guidelines contained in Attachment X.

A request by an Interconnection Customer for a conversion of Injection Rights into external Network Resource Interconnection Service pursuant to this Section 16.2, shall not

require any additional studies in the Definitive Planning Phase to the extent such studies have been performed as part of the MHVDC Connection Customer's request for Injection Rights. To the extent the MHVDC Connection Customer made the Definitive Planning Phase Milestone Payments (M2, M3, and M4) required in connection with its request for Injection Rights and evaluation, an Interconnection Customer obtaining a conversion to external Network Resource Interconnection Service based on the same request for Injection Rights shall not be required to make any additional Milestone Payments to Transmission Provider.

Any conversion to external Network Resource Interconnection Service under this Section 16.2 shall occur within three (3) years from the Commercial Operation Date for the MHVDC Transmission Line, as set forth in Appendix C of the Transmission Connection Agreement. Failure to convert any amount of the Injection Rights to external Network Resource Interconnection Service within the time period specified above shall result in termination of Injection Rights with respect to such unconverted amount. In the event any external Network Resource Interconnection Service obtained pursuant to this Section 16 terminates more than three (3) years after the Commercial Operation Date for the MHVDC Transmission Line, as set forth in Appendix C of the Transmission Connection Agreement, such terminated external Network Resource Interconnection Service may not revert back to Injection Rights.

## **SECTION 17. FACILITIES SERVICE AGREEMENT.**

In the event that the Transmission Owner elects to fund the capital for the Network Upgrades and the Transmission Owner's System Protection Facilities, the Interconnection Customer, Transmission Owner, and Transmission Provider shall enter into a Facilities Service Agreement to memorialize the terms of repayment for those Network Upgrades and Transmission Owner's System Protection Facilities that the Transmission Owner elected to self-fund. The Facilities Service Agreement shall take the form of the *pro forma* Facilities Service Agreement that is included as Appendix 14 of Attachment X of the MISO Tariff. The Facilities Service Agreement shall be subject to the terms and conditions of Attachment X, including the rights to termination of Interconnection Service. The Interconnection Customer and/or the

Transmission Owner may request in writing that Transmission Provider file the Facilities Service Agreement with FERC in unexecuted form.

## APPENDICES TO GIP

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**APPENDIX 1 TO GIP  
INTERCONNECTION REQUEST**

1. [The undersigned Interconnection Customer submits this request to interconnect its Generating Facility, located in \_\_\_\_\_ County, [\_\_\_\_\_] State], with the Transmission System pursuant to the Tariff.] or;

[The undersigned MHVDC Connection Customer submits this request for Injection Rights for its MHVDC Transmission Line, located in \_\_\_\_\_ County, [\_\_\_\_\_] State], with the Transmission System pursuant to a Tariff.];

2. This Interconnection Request is for (check one):

- ☐ Proposed new Generating Facility
- ☐ Increase in the generating capacity or a Material Modification of an Existing Generating Facility
- ☐ Replacement of Existing Generating Facility with no increase in capacity
- ☐ Interconnection Request made in connection with a Generating Facility proposed for inclusion in a resource solicitation process
- ☐ Network Resource Interconnection Service for a Generating Facility in Commercial Operation or with an executed GIA
- ☐ Generating Facility requesting Surplus Interconnection Service
- ☐ Fast Track Process for Small Generating Facility
- ☐ Injection Rights associated with a new MHVDC Transmission Line
- ☐ Expedited Resource Addition Study

3. The type of interconnection service requested is (check one as appropriate):

- ☐ Energy Resource Interconnection Service only
- ☐ Network Resource Interconnection Service (includes Energy Resource Interconnection Service)



- \_\_\_\_\_ Network Resource Interconnection Service only for an Existing Generating Facility
- \_\_\_\_\_ Network Resource Interconnection Service in connection with a resource solicitation process
- \_\_\_\_\_ Surplus Interconnection Service
- \_\_\_\_\_ External Network Resource Interconnection Service (E-NRIS) for projects connecting to a Distribution System or non-MISO transmission system;

4. Interconnection Customer provides the following definitive information:

- a. Specific address or location (use closest street or intersection if no address is available) for the proposed new Generating Facility site or, in the case of an Existing Generating Facility, the name and specific location of the Existing Generating Facility (provide a site map and GPS coordinates);

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

GPS Coordinates: \_\_\_\_\_ N \_\_\_\_\_ W

- b. The following specific information related to the Interconnection Service Requested:

| Required Information Related to Interconnection Request       |                                |                                | Additional Information/Documentation                         |
|---------------------------------------------------------------|--------------------------------|--------------------------------|--------------------------------------------------------------|
| Installed Generating Facility Capacity (Maximum Gross Output) | Summer (MW/MVAR):<br>____/____ | Winter (MW/MVAR):<br>____/____ |                                                              |
| Existing Interconnection Service, if any                      | ERIS: (MW/MVAR):<br>____/____  | NRIS: (MW/MVAR):<br>____/____  | Provide GIA, and SIS report for Existing Generating Facility |

|                                                                                                                  |                                                                                     |                                                                                     |                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| New Interconnection Service or Increase in Existing Interconnection Service Requested (Maximum Injection at POI) | ERIS (New) (MW/MVAR):<br>____/____<br>or<br>ERIS (Increase) (MW/MVAR):<br>____/____ | NRIS (New) (MW/MVAR):<br>____/____<br>or<br>NRIS (Increase) (MW/MVAR):<br>____/____ | Requested total ERIS must be less than or equal to Installed Generating Facility Capacity. Requested total NRIS must be less than or equal to total requested ERIS. |
| Station Service Load, if any                                                                                     | Summer (MW/MVAR):<br>____/____                                                      | Winter (MW/MVAR):<br>____/____                                                      |                                                                                                                                                                     |
| Surplus Interconnection Service Requested (No increase in Existing Interconnection Service)                      | Surplus Interconnection Service (MW/MVAR):<br>____/____                             |                                                                                     | SIS report for existing unit and written statement pursuant to Section 6 of this Interconnection Request                                                            |
| “NRIS only”/ External NRIS                                                                                       | NRIS Only (MW/MVAR):<br>____/____                                                   | External-NRIS (MW/MVAR):<br>____/____                                               | CP Node:<br>_____<br>Point of Interconnection:<br>_____<br>Bus Number in Power Flow Models: _____                                                                   |

- c. A description of the equipment configuration (i.e. Number of generators/inverters and number of Intermediate Step-up transformers, is this phase 2 of an existing project, etc.) for the entire Generating Facility:
- d. Generating Facility Commercial Operation Date \_\_\_\_\_,  
Synchronization Date \_\_\_\_\_, and required Interconnection Facilities  
In-Service Date \_\_\_\_\_ by day, month, and year;

- e. Name, address, telephone number, and e-mail address of the Interconnection Customer. If the Interconnection Customer has designated an agent, include its agent's contact person:

Interconnection Customer

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Interconnection Customer's Agent (if applicable)

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Agent's contact person: \_\_\_\_\_;

- f. An Internal Revenue Service Form W-9 or comparable state-issued document for the Interconnection Customer submitting this Interconnection Request;
- g. As applicable, documentation proving the existence of a legally-binding relationship between the Interconnection Customer and any entity with a vested interest in this Interconnection Request (*e.g.*, a parent company, a subsidiary, or financing company acting as agent for the Interconnection Customer) that the Interconnection Customer reasonably anticipates may claim rights or authority under this Interconnection Request. Such documentation may include but is not limited to the Interconnection Customer's Articles of Organization and Operating Agreement describing the nature of the legally-binding relationship;

- h. Interconnection Customer's banking information, or the banking information of any entity with a legally-binding relationship to the Interconnection Customer, in accordance with Section 4(f) of this Appendix 1, that wishes to make payments and receive refunds on behalf of the Interconnection Customer and in association with this Interconnection Request;

Bank Name: \_\_\_\_\_

Account Holder Name: \_\_\_\_\_

ABA number: \_\_\_\_\_

Account Number: \_\_\_\_\_

Company: \_\_\_\_\_

Tax Reporting Name: \_\_\_\_\_

Tax ID: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

- i. Location of the proposed Point of Interconnection including the substation name or the name of the line to be tapped (including the voltage), the estimated distance from the substation endpoints of a line tap, address, and GPS coordinates (Not applicable to External NRIS Applications)

POI substation name: \_\_\_\_\_ or

POI line name: \_\_\_\_\_ (endpoint 1) to \_\_\_\_\_ (endpoint 2)

POI Distance from endpoint 1: \_\_\_\_\_ miles

POI Distance from endpoint 2: \_\_\_\_\_ miles

Interconnection voltage: \_\_\_\_\_ kV

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
GPS Coordinates: \_\_\_\_\_ N \_\_\_\_\_ W

j. Generating Facility Data (set forth in Attachment A);

k. Fuel Source(s) [Check all that are applicable]:

|                                      |                                  |                                                       |
|--------------------------------------|----------------------------------|-------------------------------------------------------|
| <input type="checkbox"/> Coal        | <input type="checkbox"/> Nuclear | <input type="checkbox"/> Storage, specify type: _____ |
| <input type="checkbox"/> Hydro       | <input type="checkbox"/> Oil     | <input type="checkbox"/> Wind                         |
| <input type="checkbox"/> Natural Gas | <input type="checkbox"/> Solar   | <input type="checkbox"/> Other, specify type: _____   |

Describe the configuration of Generating Facility utilizing more than one fuel source:

\_\_\_\_\_  
\_\_\_\_\_;

If the proposed Generating Facility includes storage device(s), indicate whether the storage device(s) will be charged using energy from the Transmission System at any time: Yes \_\_\_\_\_ or No \_\_\_\_\_. If Yes, specify maximum MW that will be withdrawn from the Transmission System at any time: \_\_\_\_\_ MW;

l. Qualifying Facility status including an indication of state and / or federal qualifications that have been met (optional);

m. If this Interconnection Request is made in connection with a resource solicitation process, attach a copy of a written agreement assigning the Interconnection Customer's rights under the GIP to the solicitor of the process and granting the solicitor the right to act as the Interconnection Customer's agent for all purposes in the GIP;

- n. If this Interconnection Request is for Surplus Interconnection Service, attach a copy of the MISO Interconnection System Impact Study performed for the Existing Generating Facility when the Generating Facility was originally proposed for interconnection to the MISO Transmission System or, for Generating Facilities studied under a predecessor transmission provider's interconnection process, the original system impact study performed at the time such Generating Facility was originally studied for interconnection to the transmission system. If no such study is available, indicate this by checking the appropriate box below.
- ☐ Study Attached (if this box is checked, a copy of the study must be included as an attachment to this Interconnection Request); or
- ☐ No previous study is available;
- o. Energy Displacement Agreement (Appendix 12) and Monitoring and Consent Agreement (Appendix 11). In order for a Surplus Interconnection Request to remain valid, the Energy Displacement Agreement and Monitoring and Consent Agreement must be submitted prior to the conclusion of Generator Interconnection Agreement negotiations, pursuant to Section 11 of this GIP;
- p. Primary frequency response operating range for electric storage resources;
- q. If this Interconnection Request is for Generating Facility Replacement, Interconnection Customer must submit:
- Planned or Actual date of cessation of operation for the Existing Generating Facility: \_\_\_\_\_
- Expected Commercial Operation Date for the Replacement Generating Facility: \_\_\_\_\_
- \_\_\_\_\_ (check if applicable) Interconnection Customer requests MISO to perform Attachment Y equivalent study in the Reliability Assessment Study;

- r. For Interconnection Requests proposing to share Interconnection Customer Interconnection Facilities with another Interconnection Request or existing project, a consent agreement meeting the requirements of Section 3.3.1.4 of the GIP and the Generator Interconnection Business Practices Manual executed by all Interconnection Customers affiliated with projects that propose to connect, or are connected, to the shared Interconnection Customer Interconnection Facilities.

\_\_\_\_\_ (check if applicable) Interconnection Customer proposes to share Interconnection Customer Interconnection Facilities with another Interconnection Request or existing project and has attached a fully executed consent agreement to this Interconnection Request.

If Interconnection Customer Interconnection Facilities will be shared, the MISO Project Number(s) of other Existing Generating Facilities or Interconnection Requests with which Interconnection Customer Interconnection Facilities will be shared shall be listed below. If no project number is available for any of the other Generating Facilities with which Interconnection Customer Interconnection Facilities will be shared, state the name of the Interconnection Customer and describe the applicable Generating Facilities below.

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- s. For Interconnection Requests seeking processing through an Expedited Resource Addition Study, identify the resource adequacy deficiency (i.e. the county and state, the associated electrical bus location(s), the Local Resource Zone, and the peak MW demand of the load and/or reliability need) that the Generating Facility claims to address, the RERRA (if applicable), and include the location of the Generating Facility (i.e. county and state, the associated electrical bus location(s), and the Local Resource Zone).

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5. Interconnection Customer shall provide the applicable deposit amount as specified in the GIP;

6. If this Interconnection Request is submitted to request Surplus Interconnection Service, the undersigned Interconnection Customer shall supply a written statement from an officer of the Existing Generating Facility that is associated with this request for Surplus Interconnection Service that confirms the following:

- (i.) the amount of Surplus Interconnection Service made available by the Interconnection Customer of the Existing Generating Facility;
- (ii.) the type of Interconnection Service (i.e., ERIS or NRIS) made available by the Interconnection Customer for the Existing Generating Facility in accordance with the provisions in Section 3.2.3.1 of GIP (Attachment X); and
- (iii.) the circumstances under which the proposed Surplus Interconnection Service would be available, including an indication of whether the proposed Interconnection Service would be available on a continuous basis (i.e., a certain number of MW of Surplus Interconnection Service would always be available for use by a co-located generating facility) or on a scheduled, periodic basis (i.e., a specified number of MW of Surplus Interconnection Service that would be available intermittently);

7. Evidence of Site Control as specified in the GIP (check one)

- ☐ Is attached to this Interconnection Request
- ☐ Will be provided at a later date in accordance with the GIP;



8. This Interconnection Request shall be submitted electronically to the Transmission Provider in the manner specified by the Generator Interconnection Business Practices Manual (BPM-015).

9. Primary Representative of Interconnection Customer to contact:

[To be completed by Interconnection Customer]

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_;

10. This Interconnection Request is submitted by:

[Name of Interconnection Customer Company]

By (signature): \_\_\_\_\_

Name (type or print): \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**Attachment A to Appendix 1  
Interconnection Request**

**GENERATING FACILITY DATA**

**A. Unit Ratings**

|                                                                                                                                                                                                                                                                                                                                                                                                          |                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 1. Total Generator Rated Output (MW)                                                                                                                                                                                                                                                                                                                                                                     |                    |
| 2. Rated MVA                                                                                                                                                                                                                                                                                                                                                                                             |                    |
| 3. Number of Generating units (repeat items 3-11 for each type of generator)                                                                                                                                                                                                                                                                                                                             |                    |
| 4. Individual generator rated output (MW)                                                                                                                                                                                                                                                                                                                                                                |                    |
| 5. Individual generator rated MVA                                                                                                                                                                                                                                                                                                                                                                        |                    |
| 6. Manufacturer                                                                                                                                                                                                                                                                                                                                                                                          |                    |
| 7. Year manufactured*                                                                                                                                                                                                                                                                                                                                                                                    |                    |
| 8. Nominal terminal voltage (kV)                                                                                                                                                                                                                                                                                                                                                                         |                    |
| 9. Minimum Short Circuit Ratio for turbine operation                                                                                                                                                                                                                                                                                                                                                     |                    |
| 10. Rated power factor<br>Refer:<br>i. FERC Order No. 827<br><a href="https://www.ferc.gov/whats-new/comm-meet/2016/061616/E-1.pdf">https://www.ferc.gov/whats-new/comm-meet/2016/061616/E-1.pdf</a><br>ii. MISO TO power factor requirements<br><a href="https://cdn.misoenergy.org/Reactive_Generator_Requirements108137.pdf">https://cdn.misoenergy.org/Reactive_Generator_Requirements108137.pdf</a> |                    |
| 11. Generator Voltage Regulation range (+/-)                                                                                                                                                                                                                                                                                                                                                             |                    |
| 12. Generator Power Factor Regulation range (+/-)                                                                                                                                                                                                                                                                                                                                                        |                    |
| 13. Primary frequency response operating range for electric storage resources:<br>i. Minimum state of charge:<br>ii. Maximum state of charge:                                                                                                                                                                                                                                                            | <br><hr/><br><hr/> |
| 14. Type (Induction, Synchronous, D.C. with Inverter)                                                                                                                                                                                                                                                                                                                                                    |                    |
| 15. Connection (Delta, Grounded WYE, Undergrounded WYE, Impedance Grounded)                                                                                                                                                                                                                                                                                                                              |                    |

**\*If available**

### A-1. Generator Short Circuit Information\*

(Provide following reactances in p.u. on the generator base)

|                                                                                                                                                                    |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1. $X''1$ —Positive sequence sub transient reactance (p.u.)                                                                                                        |  |
| 2. $X2$ —Negative sequence reactance (p.u.)                                                                                                                        |  |
| 3. $X0$ —Zero sequence reactance (p.u.)                                                                                                                            |  |
| 4. Generator grounding:<br>4.a. Solidly grounded (yes/no)<br>4.b. Grounded through an impedance (yes/no)<br>If yes: R _____ p.u.   X _____ p.u.<br>4.c. Ungrounded |  |

### A-2. Main Generator Step-up Up (GSU) Transformer

(Please fill out data in table below for each GSU transformer)

Number of Transformers \_\_\_\_\_

#### RATINGS

|                                           | Self-Cooled          | Maximum Nameplate     |                    |
|-------------------------------------------|----------------------|-----------------------|--------------------|
| Capacity (kVA)                            |                      |                       |                    |
|                                           | Generator Side       | System Side           | Tertiary           |
| Voltage Ratio (kV)                        |                      |                       |                    |
|                                           | Low Voltage          | High Voltage          | Tertiary Voltage   |
| Winding Connections (Delta or Wye)        |                      |                       |                    |
| IMPEDANCE                                 | Primary-Secondary    | Primary-Tertiary      | Secondary-Tertiary |
| Positive $Z1$ (on self-cooled kVA rating) | _____ % _____ X/R    | _____ % _____ X/R     | _____ % _____ X/R  |
| Zero $Z0$ (on self-cooled kVA rating)     | _____ % _____ X/R    | _____ % _____ X/R     | _____ % _____ X/R  |
|                                           | Fixed Taps Available | Present Tap Available |                    |
| TAP SETTING                               |                      |                       |                    |

### A-3. Pad Mount Transformer

(Please fill out data in table below for each GSU transformer)

Number of Transformers \_\_\_\_\_

#### RATINGS

|                                               |                                 |                                  |                    |
|-----------------------------------------------|---------------------------------|----------------------------------|--------------------|
|                                               | Self-Cooled                     | Maximum<br>Nameplate             |                    |
| Capacity (kVA)                                |                                 |                                  |                    |
|                                               | Generator Side                  | System Side                      | Tertiary           |
| Voltage Ratio (kV)                            |                                 |                                  |                    |
|                                               | Low Voltage                     | High Voltage                     | Tertiary Voltage   |
| Winding<br>Connections (Delta<br>or Wye)      |                                 |                                  |                    |
| IMEPDANCE                                     | Primary-Secondary               | Primary-Tertiary                 | Secondary-Tertiary |
| Positive Z1 (on<br>self-cooled kVA<br>rating) | ____ % ____ X/R                 | ____ % ____ X/R                  | ____ % ____ X/R    |
| Zero Z0 (on self-<br>cooled kVA rating)       | ____ % ____ X/R                 | ____ % ____ X/R                  | ____ % ____ X/R    |
|                                               | <u>Fixed Taps<br/>Available</u> | <u>Present Tap<br/>Available</u> |                    |
| TAP SETTING                                   |                                 |                                  |                    |

#### A-4. Interconnection Facilities Tie Line Information

(Only list data for lines that are to be added by the generation developer)

|                                                                          |    |    |
|--------------------------------------------------------------------------|----|----|
| 1. Nominal Voltage (kV)                                                  |    |    |
| 2. Line length (miles)                                                   |    |    |
| 3. Line termination points                                               | 1. | 2. |
| 4. Conductor Type/Size (kcm)                                             |    |    |
| 5. Phase Configuration (Vertical or Horizontal)                          |    |    |
| 6. Summer line ratings in amperes (MVA)                                  |    |    |
| 7. Positive sequence resistance (R) for entire length (in p.u.*)         |    |    |
| 8. Positive sequence reactance (X) for entire length (in p.u.*)          |    |    |
| 9. Zero sequence resistance (R0) for entire length (in p.u.*)            |    |    |
| 10. Zero sequence reactance (X0) for entire length (in p.u.*)            |    |    |
| 11. Positive sequence line charging (B) for the entire length (in p.u.*) |    |    |

\* On 100-MVA and nominal line voltage (kV) Base

**For wind/photovoltaic plants, provide System Equivalence Impedance Data. (Provide values for each equivalence collector circuit at all voltage levels. Equivalent collector system impedance does not include pad mount impedance)**

|                                                                         |  |
|-------------------------------------------------------------------------|--|
| 1. Nominal Voltage (kV)                                                 |  |
| 2. Summer line ratings in amperes (MVA)                                 |  |
| 3. Positive sequence resistance (R) for entire length (in p.u.*)        |  |
| 4. Positive sequence reactance (X) for entire length (in p.u.*)         |  |
| 5. Zero sequence resistance (R0) for entire length (in p.u.*)           |  |
| 6. Zero sequence reactance (X0) for entire length (in p.u.*)            |  |
| 7. Positive sequence line charging (B) for the entire length (in p.u.*) |  |

\* On 100-MVA and nominal line voltage (kV) Base

#### **A-5. Dynamic Modeling Information**

The Interconnection Customer is to provide the appropriate PSS/E library model in the form of a Siemens PTI PSS/E dyr file. A detailed model of a generator must include:

- Generator Model
- Excitation System Model
  - May be omitted if unit is operated under manual excitation control
- Turbine-Governor Model
  - May be omitted if unit doesn't regulate frequency
- Power System Stabilizer Model
  - May be omitted if device is not installed or not active
- Reactive Line Drop Compensation Model
  - May be omitted if device is not installed or not active

Models submitted must be acceptable and recommended in the NERC Acceptable Model List posted at: [http://www.nerc.com/comm/PC/Pages/System-Analysis-and-Modeling-Subcommittee-\(SAMS\)-2013.aspx](http://www.nerc.com/comm/PC/Pages/System-Analysis-and-Modeling-Subcommittee-(SAMS)-2013.aspx) and also comply with MISO's MOD-032 Model Data Requirements and Reporting Procedures posted at: <https://www.misoenergy.org/planning/planning-modeling/mod-032-1>

#### **A-6. ONE-LINE & MODEL INFORMATION**

The Interconnection Customer shall provide a Power Flow model describing the generator in a format compatible with Siemens PTI PSS/E (.sav, .raw, .idev, .py, .prj, or equivalent format as specified by MISO).

The Interconnection Customer is to provide the definitive one-line diagram for the POI – Information shall include:

- Breaker layout, bus configuration (if available) and number of generators
- The zero sequence impedance (if applicable)
- The distance from the collector substation to the POI referenced in miles and the line impedance

- If the POI is a line tap, distance from the tap to the endpoints of the existing line referenced in miles
- Generator step up (GSU) transformer data and collector substation transformer data, including impedances for each phase of the transformer (if applicable)
- For inverter based generators, FERC Order 827 requires
  - Location and size of any dynamic and/or static VAR compensation devices
  - Equivalent collector system impedance

Models submitted should comply with MISO's Model Data Requirements and Reporting Procedures posted at: <https://www.misoenergy.org/planning/planning-modeling/mod-032-01>

**B. Synchronous Generator Information**  
**(e.g. Biomass, Coal, Diesel, Hydro, Natural Gas, Nuclear, Oil)**

|                                                                                                        |                    |                        |
|--------------------------------------------------------------------------------------------------------|--------------------|------------------------|
| 1. (Repeat the following for each generator model) Rated Generator speed (rpm)                         |                    |                        |
| 2. Maximum Turbine MW (°F)                                                                             |                    |                        |
| 3. Moment-of-Inertia, $WR^2$ (lb.ft. <sup>2</sup> for combined Turbine-Generator-Exciter-Inertia Data) |                    |                        |
| 4. Inertia Constant, H (kW sec/kVA for combined Turbine-Generator-Exciter-Inertia Data)                |                    |                        |
| <b>Reactance Data (Per Unit- Rated kVA)</b>                                                            |                    |                        |
|                                                                                                        | <b>Direct Axis</b> | <b>Quadrature Axis</b> |
| Synchronous-saturated                                                                                  | Xdv:               | Xqv:                   |
| Synchronous-unsaturated                                                                                | Xdi                | Xqi                    |
| Transient – saturated                                                                                  | Xdv:               | Xqv:                   |
| Transient – unsaturated                                                                                | Xdi:               | Xqi:                   |
| Subtransient – saturated                                                                               | Xdv:               | Xqv:                   |
| Subtransient – unsaturated                                                                             | Xdi:               | Xqi:                   |
| Negative Sequence - saturated                                                                          | X2v:               |                        |
| Negative Sequence - unsaturated                                                                        | X2i:               |                        |
| Zero Sequence – saturated                                                                              | X0v:               |                        |
| Zero Sequence – unsaturated                                                                            | X0i:               |                        |
| Leakage Reactance                                                                                      | Xlm:               |                        |
| <b>Field Time Constant Data (sec)</b>                                                                  |                    |                        |
| Open Circuit                                                                                           | Td0:               | Tq0:                   |
| Three-Phase Short Circuit Transient                                                                    | Td3:               | Tq:                    |
| Line-to-Line Short Circuit Transient                                                                   | Td2:               |                        |
| Line-to-Neutral Short Circuit Transient                                                                | Td1:               |                        |
| Short Circuit Subtransient                                                                             | Td:                | Tq:                    |
| Open Circuit Subtransient                                                                              | Td0:               | Tq0:                   |
| <b>Armature Time Constant Data (sec)</b>                                                               |                    |                        |
| Three Phase Short Circuit                                                                              | Ta3                |                        |
| Line-to-Line Short Circuit                                                                             | Ta2                |                        |
| Line-to-Neutral Short Circuit                                                                          | Ta1                |                        |
| <b>Armature Winding Resistance Data (Per Unit)</b>                                                     |                    |                        |
| Positive                                                                                               | R1                 |                        |
| Negative                                                                                               | R2                 |                        |
| Zero                                                                                                   | R0                 |                        |
| Rotor Short Time Thermal capacity I22t                                                                 |                    |                        |
| Field Current Rated kVA, Armature Voltage and, <b>PF</b>                                               | = _____ amps       |                        |
| Field Current Rated kVA, Armature Voltage and, <b>0 PF</b>                                             | = _____ amps       |                        |



|                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Three Phase Armature Winding Capacitance                                                                                                                                                                                                                                                                                                                                                                                | = _____ microfarad |
| Field Winding Resistance                                                                                                                                                                                                                                                                                                                                                                                                | = _____ ohms C     |
| Armature Winding Resistance (per Phase)                                                                                                                                                                                                                                                                                                                                                                                 | = _____ ohms C     |
| 5. Attach generator reactive capability curves                                                                                                                                                                                                                                                                                                                                                                          |                    |
| 6. Attach a plot of generator terminal voltage versus field current showing the air gap line, open-circuit saturation curve, and saturation curve at full load and rated power factor, and power quality curves specifying percent total harmonic distortion vertically and percent power output horizontally from 25 – 100% power output for both current and voltages or specify that the unit is IEEE 519 compliant. |                    |

**B-1. Excitation System Information**  
(Repeat the following for each generator model)

|                                                                                                                                                                                                                                           |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1. Manufacturer and Type of excitation system used for the generator.                                                                                                                                                                     |  |
| 2. Excitation System Response Ratio (ASA)                                                                                                                                                                                                 |  |
| 3. Full load rated exciter output voltage                                                                                                                                                                                                 |  |
| 4. Maximum exciter output voltage (ceiling voltage)                                                                                                                                                                                       |  |
| 5. Other comments regarding excitation system                                                                                                                                                                                             |  |
| 6. Attach IEEE block diagram of the excitation system and power system stabilizer (PSS) for computer representation in power system stability simulations and the corresponding excitation system and PSS constants for use in the model. |  |

**B-2. Turbine Governor Information**

(Repeat the following for each generator model and complete only section that applies to corresponding turbine type)

|                              |                                                                                                                |  |
|------------------------------|----------------------------------------------------------------------------------------------------------------|--|
| For all turbine types        | a. Turbine manufacturer                                                                                        |  |
|                              | b. Maximum turbine power output (MW)                                                                           |  |
|                              | c. Minimum turbine power output while on-line (MW)                                                             |  |
|                              | d. Droop setting (speed regulation)                                                                            |  |
|                              | e. Is the governor mechanical-hydraulic or electro-hydraulic?                                                  |  |
|                              | f. Other comments about turbine governor system?                                                               |  |
| Steam, gas or combined cycle | a. Unit type (Steam, Gas, Combined Cycle)                                                                      |  |
|                              | b. If steam or combined-cycle, does turbine system have re-heat process (both high and low pressure turbines)? |  |

|                |                                                                                                                  |  |
|----------------|------------------------------------------------------------------------------------------------------------------|--|
|                | c. If steam with reheat process, or if combined cycle, indicate low/high pressure turbine gas/steam (%)          |  |
| Hydro Turbines | a. Turbine efficiency at rated load (%)                                                                          |  |
|                | b. Length of penstock (ft)                                                                                       |  |
|                | c. Average cross-sectional area of penstock (ft <sup>2</sup> )                                                   |  |
|                | d. Typical maximum head (vertical distance from the bottom of the penstock, at the gate, to the water level (ft) |  |
|                | e. Water supply (run-of-the-river or reservoir)                                                                  |  |
|                | f. Water flow rate at typical maximum head (ft <sup>3</sup> /sec)                                                |  |
|                | g. Average energy rate (kWh/acre-ft)                                                                             |  |
|                | h. Estimated yearly energy production (kWh)                                                                      |  |

### B-3. Induction Generator Information

|                                                  |  |
|--------------------------------------------------|--|
| 1. Motoring Power (kW)                           |  |
| 2. Neutral Grounding Resistor (If Applicable)    |  |
| 3. I22t or K (Heating Time Constant)             |  |
| 4. Rotor Resistance                              |  |
| 5. Stator Resistance                             |  |
| 6. Stator Reactance:                             |  |
| 7. Rotor Reactance:                              |  |
| 8. Magnetizing Reactance:                        |  |
| 9. Short Circuit Reactance:                      |  |
| 10. Exciting Current:                            |  |
| 11. Temperature Rise:                            |  |
| 12. Frame Size:                                  |  |
| 13. Design Letter:                               |  |
| 14. Reactive Power Required In Vars (No Load):   |  |
| 15. Reactive Power Required In Vars (Full Load): |  |

|                                |                                     |
|--------------------------------|-------------------------------------|
| 16. Total Rotating Inertia, H: | _____ in<br>Per Unit on KVA<br>Base |
|--------------------------------|-------------------------------------|

### C. Non-Synchronous Generator Information

#### C-1. Wind Generators Information

|                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 1. Number of generators to interconnect pursuant to Interconnection Request                                                                                                                                                                                                                                                                                                          |                                                                                                                               |
| 2. Average site elevation                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                               |
| 3. Field Volts                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                               |
| 4. Field Amperes                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                               |
| 5. Heating time constant (I22t)                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                               |
| 6. Rotor Resistance                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                               |
| 7. Stator Resistance                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                               |
| 8. Rotor Reactance                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                               |
| 9. Stator Reactance                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                               |
| 10. Exciting Current                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                               |
| 11. Temperature Rise                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                               |
| 12. Total Rotating inertia (H) (Per unit on 100 MVA Base)                                                                                                                                                                                                                                                                                                                            |                                                                                                                               |
| 13. List of adjustable set- points for protective equipment or software*                                                                                                                                                                                                                                                                                                             |                                                                                                                               |
| 14. Generator type (e.g. GE doubly fed induction machine with back-to-back IGBT converters, or Micon induction generator)                                                                                                                                                                                                                                                            |                                                                                                                               |
| 15. Generator voltage ride through capability                                                                                                                                                                                                                                                                                                                                        | Min low-voltage threshold in percent to enable tripping _____<br>Max low-voltage duration in seconds to enable tripping _____ |
| 16. Provide voltage flicker data, if available, for the wind generator model to be installed specified in percent of total voltage output. The data may be provided at 25, 50, 75, and 100% of output or in the form of a curve with the Y-axis showing percent of flicker versus total output and the X-axis showing percent load output from at least 25% to 100% of total output. |                                                                                                                               |
| 17. Provide voltage dropout limits expressed in voltage level versus time                                                                                                                                                                                                                                                                                                            |                                                                                                                               |
| 18. Provide frequency dropout limits expressed in frequency versus time                                                                                                                                                                                                                                                                                                              |                                                                                                                               |
| 19. Provide reactive power capability curve                                                                                                                                                                                                                                                                                                                                          |                                                                                                                               |

**\*If available**

**C-2. Inverter-Based Parameters (e.g. Solar, Storage, Type 4 Wind Turbines)**

|                                                                           |  |
|---------------------------------------------------------------------------|--|
| 1. Number of inverters to be interconnected                               |  |
| 2. Inverter Manufacturer                                                  |  |
| 3. Inverter Model Name                                                    |  |
| 4. Inverter Model Number                                                  |  |
| 5. Inverter Version Number                                                |  |
| 6. List of adjustable set points for the protective equipment or software |  |
| 7. Maximum design fault contribution current                              |  |
| 8. Harmonics Characteristics                                              |  |
| 9. Start – up requirements                                                |  |

**\*PSCAD models may be required/requested for inverter based resources as needed during the Generator Interconnection Process. If available please provide with application materials.**

**ATTACHMENT B TO APPENDIX 1 TO GIP  
INTERCONNECTION STUDY AGREEMENT (GENERATING FACILITY)**

**THIS AGREEMENT** is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_, (“Interconnection Customer,”) and the **Midcontinent Independent System Operator, Inc.**, a non-profit, non-stock corporation organized and existing under the laws of the State of Delaware, sometimes hereinafter referred to as the “Transmission Provider.” Interconnection Customer and Transmission Provider each may be referred to as a “Party,” or collectively as the “Parties.” Any capitalized term used herein but not defined herein shall have the meaning assigned to such term in the GIP and the GIA.

**RECITALS**

**WHEREAS**, Interconnection Customer is proposing to develop a Generating Facility or generating capacity addition to an Existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated \_\_\_\_\_; and

**WHEREAS**, Interconnection Customer desires to interconnect the Generating Facility with the Transmission System; and

**WHEREAS**, Interconnection Customer has requested Transmission Provider to perform Interconnection Studies and/or Provisional Interconnection Studies to assess interconnecting the proposed Generating Facility to the Transmission System, and of any Affected Systems;

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Transmission Provider's Commission-approved GIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed an Interconnection Study and/or an Provisional Interconnection Study consistent with the GIP in accordance with the Tariff, an Interconnection System Impact Study consistent with the GIP and an Interconnection Facilities Study consistent with the GIP, collectively referred to as the "Studies."
- 3.0 The Studies shall be based on the technical information provided by Interconnection Customer in the Interconnection Request, as may be modified as the result of the Scoping Meeting, study results, or any other reason identified in the GIP. Transmission Provider reserves the right to request additional technical information from Interconnection Customer as such information may reasonably become necessary consistent with Good Utility Practice during the course of the Studies and as designated in accordance with Section 3.3.3 of the GIP. If, after the designation of the Point of Interconnection pursuant to Section 3.3 of the GIP, Interconnection Customer modifies its Interconnection Request pursuant to Section 4.4, Transmission Provider may extend the time to complete The Studies.
- 4.0 **{Reserved}**
- 5.0 The Interconnection System Impact Study report shall provide the following information:
  - identification of any equipment short circuit capability limits exceeded as a result of the interconnection;

- identification of any thermal overload or voltage limit violations resulting from the interconnection;
- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection (including as necessary, transient stability, both large and small signal, sub synchronous stability, dynamic voltage stability, mid and long-term stability, voltage flicker analyses, and excessive neutral current studies in accordance with Good Utility Practice), and
- preliminary description and non-binding, good faith, planning level estimated cost of facilities required to interconnect the Generating Facility to the Transmission System and to address the identified short circuit, instability, and power flow issues.

6.0 The Interconnection Facilities Study shall provide draft GIA appendices and supporting documentation, which will: (i) provide a description, estimated cost of (consistent with Attachment A), and schedule for required facilities to interconnect the Generating Facility to the Transmission System and (ii) address the short circuit, instability, and power flow issues identified in the Interconnection System Impact Study.

7.0 Interconnection Customer shall provide deposits in the amount and timing outlined in Sections 3.3 of the GIP for the performance of the Studies.

Any difference between the deposit and the actual cost of The Studies shall be paid by or refunded to Interconnection Customer, as appropriate under Section 13.3 of the GIP.

- 8.0 Interconnection Customer may request all Base Cases and work papers associated with this Interconnection Request, subject to Transmission Provider provisions around acquiring Critical Energy Infrastructure Information.
- 9.0 Indemnity. To the extent permitted by law, each Party shall at all times indemnify, defend and hold the other Parties harmless from any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.
- 10.0 Limitation of Liability. Except with respect to the duties of defense and indemnity expressly provided in this Agreement, a Party shall not be liable to another Party or to any third party or other person for any damages arising out of actions under this Agreement, including, but not limited to, any act or omission that results in an interruption, deficiency or imperfection of Interconnection Service, except as provided in the Tariff. The provisions set forth in the Tariff shall be additionally applicable to any Party acting in good faith to implement or comply with its obligations under this Agreement, regardless of whether the obligation is preceded by a specific directive.
- 11.0 Miscellaneous. Except as otherwise provided herein, this Agreement shall include standard miscellaneous terms including, but not limited to, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, that are consistent with regional practices, Applicable Laws and Regulations and the organizational nature of each Party. All of these provisions,



to the extent practicable, shall be consistent with the provisions of the GIP and the GIA.

**IN WITNESS THEREOF**, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

**Midcontinent Independent**  
**System Operator, Inc.**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**[Insert name of Interconnection Customer]**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

## INTERCONNECTION STUDY AGREEMENT (INJECTION RIGHTS)

**THIS AGREEMENT** is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_, (“MHVDC Connection Customer,”) and the **Midcontinent Independent System Operator, Inc.**, a non-profit, non-stock corporation organized and existing under the laws of the State of Delaware, sometimes hereinafter referred to as the “Transmission Provider.” MHVDC Connection and Transmission Provider each may be referred to as a “Party,” or collectively as the “Parties.” Any capitalized term used herein but not defined herein shall have the meaning assigned to such term in the GIP and the GIA.

### RECITALS

**WHEREAS**, MHVDC Connection Customer is proposing to develop an MHVDC Transmission Line or capacity addition to an existing MHVDC Transmission Line consistent with the Interconnection Request submitted by MHVDC Connection Customer dated \_\_\_\_\_; and

**WHEREAS**, MHVDC Connection Customer desires to interconnect the MHVDC Transmission Line with the Transmission System; and

**WHEREAS**, MHVDC Connection Customer has requested Transmission Provider to perform Interconnection Studies and/or Provisional Interconnection Studies to assess interconnecting the proposed MHVDC Transmission Line to the Transmission System, and of any Affected Systems;

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall

have the meanings indicated in the Transmission Provider's Commission-approved GIP.

- 2.0 MHVDC Connection Customer elects and Transmission Provider shall cause to be performed an Interconnection Study and/or an Provisional Interconnection Study consistent with the GIP in accordance with the Tariff, an Interconnection System Impact Study consistent with the GIP and an Interconnection Facilities Study consistent with the GIP, collectively referred to as the "Studies."
- 3.0 The Studies shall be based on the technical information provided by MHVDC Connection Customer in the Interconnection Request, as may be modified as the result of the Scoping Meeting, study results, or any other reason identified in the GIP. Transmission Provider reserves the right to request additional technical information from MHVDC Connection Customer as such information may reasonably become necessary consistent with Good Utility Practice during the course of the Studies and as designated in accordance with Section 3.3.3 of the GIP. If, after the designation of the Point of Interconnection pursuant to Section 3.3 of the GIP, MHVDC Connection Customer modifies its Interconnection Request pursuant to Section 4.4, Transmission Provider may extend the time to complete The Studies.
- 4.0 **{Reserved}**
- 5.0 The Interconnection System Impact Study report shall provide the following information:
  - identification of any equipment short circuit capability limits exceeded as a result of the interconnection;
  - identification of any thermal overload or voltage limit violations resulting

from the interconnection;

- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection (including as necessary, transient stability, both large and small signal, sub synchronous stability, dynamic voltage stability, mid and long-term stability, voltage flicker analyses, and excessive neutral current studies in accordance with Good Utility Practice), and
- preliminary description and non-binding, good faith, planning level estimated cost of facilities required to interconnect the MHVDC Transmission Line to the Transmission System and to address the identified short circuit, instability, and power flow issues.

6.0 The Interconnection Facilities Study shall provide draft TCA appendices and supporting documentation, which will: (i) provide a description, estimated cost of (consistent with Attachment A), and schedule for required facilities to interconnect the MHVDC Transmission Line to the Transmission System and (ii) address the short circuit, instability, and power flow issues identified in the Interconnection System Impact Study.

7.0 MHVDC Connection Customer shall provide deposits in the amount and timing outlined in Sections 3.3 of the GIP for the performance of the Studies.

Any difference between the deposit and the actual cost of The Studies shall be paid by or refunded to MHVDC Connection Customer, as appropriate under Section 13.3 of the GIP.

8.0 MHVDC Connection Customer may request all Base Cases and work papers associated with this Interconnection Request, subject to Transmission Provider

provisions around acquiring Critical Energy Infrastructure Information.

- 9.0 Indemnity. To the extent permitted by law, each Party shall at all times indemnify, defend and hold the other Parties harmless from any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.
- 10.0 Limitation of Liability. Except with respect to the duties of defense and indemnity expressly provided in this Agreement, a Party shall not be liable to another Party or to any third party or other person for any damages arising out of actions under this Agreement, including, but not limited to, any act or omission that results in an interruption, deficiency or imperfection of Interconnection Service, except as provided in the Tariff. The provisions set forth in the Tariff shall be additionally applicable to any Party acting in good faith to implement or comply with its obligations under this Agreement, regardless of whether the obligation is preceded by a specific directive.
- 11.0 Miscellaneous. Except as otherwise provided herein, this Agreement shall include standard miscellaneous terms including, but not limited to, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, that are consistent with regional practices, Applicable Laws and Regulations and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the GIP and the GIA.

**IN WITNESS THEREOF**, the Parties have caused this Agreement to be duly executed  
by their duly authorized officers or agents on the day and year first above written.

**Midcontinent Independent**  
**System Operator, Inc.**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**[Insert name of MHVDC Connection Customer]**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**ATTACHMENT C TO APPENDIX 1: UNIVERSAL NON-DISCLOSURE AND  
CONFIDENTIALITY AGREEMENT**

**PROJECT NO. \_\_\_\_\_**

This Universal Non-Disclosure and Confidentiality Agreement (the “Agreement”) is entered into on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ and effective as of the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ (the “Effective Date”), by and between Midcontinent Independent System Operator, Inc. (“MISO”) and \_\_\_\_\_, (“Company”) whose principal offices are located at \_\_\_\_\_. MISO and Company each may be referred to individually as a “Party” or collectively as the “Parties.”

WHEREAS, MISO is prepared to disclose confidential information under this Agreement to Company in connection with MISO’s business with, or possible engagement of, Company (the “Purpose”);

WHEREAS, Company represents that it desires to receive confidential information pursuant to this Agreement; and,

WHEREAS, MISO and Company desire to set forth in writing the terms and conditions of their agreement.

NOW THEREFORE, in consideration of the mutual promises, covenants, representations and agreements contained in this Agreement and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

**1.0 Confidential Information.** “Confidential Information” as used in this Agreement means all information disclosed to Company by MISO or its employees, agents, contractors, representatives, consultants and advisors (collectively “Disclosing Party”) in connection

with the Purpose. Confidential Information includes, without limitation, (i) any and all business, technical, marketing, financial or other information, whether in electronic, oral or written form; (ii) trade secrets, business plans, techniques, methods, or systems, data, know-how, formulae, compositions, designs, sketches, mock-ups, prototypes, photographs, charts, graphs, forms, documents, drawings, samples, inventions, ideas, research and development, customer and vendor lists (including, without limitation, the identity, characteristics, contact persons, product and service needs thereof), rates, price lists, computer software programs and systems, financial statements, and budgets; (iii) all memoranda, summaries, notes, analyses, compilations, studies or those portions of other documents prepared by Company to the extent they contain or reflect such information of, or the contents of discussions with the Disclosing Party (“Company’s Material”), including the contents or existence of discussions or negotiations related to the Purpose; (iv) information not generally known or readily ascertainable; (v) information that provides a competitive advantage for Disclosing Party; and (vi) information that is marked “Confidential” or nonpublic information which under the circumstances surrounding disclosure a reasonable person would conclude should be treated as confidential. Confidential Information shall not include information that (a) is or becomes part of the public domain other than as a result of disclosure by Company, (b) becomes available to Company on a non-confidential basis from a source other than Disclosing Party, provided that, to the best of Company’s knowledge, such source is not prohibited from transmitting such information by a contractual, legal, or other obligation, or (c) was in Company’s possession prior to disclosure of the same by Disclosing Party.

- 2.0 Non-Use; Protection and Dissemination of Confidential Information.** Company agrees not to disclose, discuss, use, reproduce, duplicate, distribute, copy, reconstruct or in any way communicate, directly or indirectly, the Confidential Information for purposes other than in connection with the Purpose. Company shall not disclose, discuss, use, reproduce, duplicate, distribute or in any way communicate, directly or indirectly, the Confidential Information to any other party and will use all reasonable efforts to protect the confidentiality of such information. Company will require that Company’s employees, officers, directors, agents, contractors, representatives, consultants and



advisors who need to have access to such Confidential Information in order to assist Company in connection with the Purpose (1) are aware of the Company's confidentiality obligation hereunder, and (2) agree to be bound by such confidentiality obligations. Company shall notify Disclosing Party immediately of any loss, misuse, or misappropriation of any Confidential Information of which Company becomes aware.

**3.0 Ownership and Return.** All Confidential Information, including Company's Material, shall be and remain the property of Disclosing Party, and no right or license is granted to Company with respect to any Confidential Information. No transfer or creation of ownership rights in any intellectual property comprising Confidential Information is intended or shall be inferred by the disclosure of Confidential Information by Disclosing Party, and any and all intellectual property comprising Confidential Information disclosed and any derivations thereof, shall continue to be the exclusive intellectual property of Disclosing Party. Upon the termination by any Party of the Purpose, or sooner if so requested, Company agrees to immediately return all Confidential Information, including Company's Material, to Disclosing Party or to destroy all Confidential Information, including all copies of the same, however, Company shall not be required to destroy Confidential Information that has become embedded in Company's planning models. Upon request, the fact of any such destruction shall be certified in writing to Disclosing Party by Company. Nothing in this Agreement obligates Disclosing Party to disclose any information to Company or creates any agency or partnership relation between them.

**4.0 Compliance and Protection of Confidential Information.** Company represents and warrants that it has practices and procedures adequate to protect against the unauthorized release of Confidential Information received. Company must educate its employees, agents, and assigns in the provisions of this Agreement and provide to Disclosing Party upon request any information necessary to determine compliance with the terms of this Agreement.

**5.0 Indemnification.** To the extent permitted by law, Company agrees to indemnify, hold harmless and defend MISO, its employees, principals (owners, partners, shareholders or holders of an ownership interest, as the case may be), agents, contractors, representatives,

consultants and/or advisors against any and all liability, loss, costs, damages, expenses, claims or actions, joint or several, arising out of or by reason of any breach of this Agreement by Company and/or Company's employees, agents, contractors, representatives or consultants, or arising out of or by reason of any act or omission of Company and/or Company's employees, agents, contractors, representatives or consultants in the execution, performance, or failure to adequately perform their obligations under this Agreement. For purposes of this Section, to "indemnify" means to defend and pay all expenses (including reasonable attorneys' fees) and satisfy all judgments (including costs and reasonable attorneys' fees) which may be incurred or rendered against MISO, its employees, principals (owners, partners, shareholders or holders of an ownership interest, as the case may be), agents, contractors, representatives, consultants and/or advisors.

- 6.0 Compelled Disclosure.** If Company is requested or required by legal or administrative process to disclose any Confidential Information, Company shall promptly notify Disclosing Party of such request or requirement so that Disclosing Party may seek an appropriate protective order or other relief. In any case, Company will (a) disclose only that portion of the Confidential Information that its legal counsel advises is required to be disclosed, (b) use its reasonable efforts to ensure that such Confidential Information is treated confidentially, including seeking an appropriate protective order, and (c) notify Disclosing Party as soon as reasonably practicable of the items of Confidential Information so disclosed.
- 7.0 Remedies.** The Parties acknowledge that remedies at law may be inadequate to protect Disclosing Party against any actual or threatened breach of this Agreement by Company, and, without prejudice to any other rights and remedies otherwise available to Disclosing Party, agree to the immediate granting of preliminary and final injunctive relief (without prior notice and without posting any bond) in favor of Disclosing Party to enjoin and restrain any breach or violation, either actual or anticipatory, of this Agreement.
- 8.0 Purpose.** None of the Parties will be under any legal obligation of any kind whatsoever with respect to the Purpose by virtue of this Agreement, except for the matters

specifically agreed to herein. No representation or warranty is made by the Disclosing Party as to the accuracy or completeness of any information provided to the Company.

**9.0 Term and Termination.** Company's obligations under this Agreement shall be effective on the date set forth above and shall be perpetual, notwithstanding any expiration, cancellation or termination of this Agreement. Upon termination of the Agreement, Company shall either promptly (1) deliver or cause to be delivered to Disclosing Party or (2) certify to the Disclosing Party the destruction of, all Confidential Information, including all copies of the Confidential Information in Company's possession or control including, without limitation, originals and copies of documents, customer lists, prospect lists, price lists, operations manuals, and all other documents reflecting or referencing the Confidential Information, as well as all other materials furnished to or acquired by Company to facilitate the Purpose of the Agreement.

**10.0 Agency.** This Agreement is binding on Company, its employees, agents, contractors, representatives, consultants, advisors, successors and assigns. In the event of a dispute regarding liability for breach of this Agreement, common law agency principles apply.

**11.0 Waiver.** No waiver of any of the provisions of this Agreement will be deemed or will constitute a waiver of any other provision, whether or not similar, nor will any waiver constitute a continuing waiver. No waiver will be binding unless executed in writing by an authorized representative of the Party making the waiver. The failure of either Party in any one or more instances to insist upon strict performance of any of the terms and conditions of this Agreement will not be construed as a waiver or relinquishment, to any extent, of the right to assert or rely upon any such terms or conditions on any future occasion.

**12.0 Modification.** This Agreement may not be amended except in a writing signed by authorized representatives of both Parties.

**13.0 Governing Law.** Indiana law shall govern the interpretation and implementation of the Agreement and the resolution of any dispute between the parties regarding the effect of the Agreement without giving effect to principles of conflicts of law, and shall supplement, but not replace, the Uniform Trade Secrets Act as enacted by the State of Indiana. Each Party hereby submits itself for the sole purpose of this Agreement and any

controversy arising hereunder to the exclusive jurisdiction of the federal or state courts located in the State of Indiana serving the counties of Hamilton and Marion, and any courts of appeal therefrom, and waives any objection (on the grounds of lack of jurisdiction, or forum not convenient or otherwise) to the exercise of such jurisdiction over it by any such courts.

- 14.0 Severability and Survival.** Should any clause, portion or paragraph of this Agreement be unenforceable or invalid for any reason, such unenforceability or invalidity will not affect the enforceability or validity of the remainder of this Agreement, and any court having jurisdiction is specifically authorized and encouraged by the Parties to hold inviolate all portions of this Agreement that are valid and enforceable without consideration of any invalid or unenforceable portions hereof.
- 15.0** The headings of the sections in this Agreement are for the purposes of convenient reference only and are not intended to be part of this Agreement, or to limit or affect the meaning or interpretation of any of the terms hereof.
- 16.0 Assignment and Succession.** This Agreement shall inure to the benefit of and be binding upon the successors and permitted assigns of the Parties hereto. Any successor to or assignee of MISO shall assume its rights and obligations under this Agreement with or without notice to Company. Company may not assign its rights hereunder without the written permission of MISO.
- 17.0 Attorney's Fees.** If Company breaches or defaults in the performance of any of the covenants, agreements, representations, or warranties described in this Agreement, then in addition to any and all of the rights and remedies which MISO may have against Company, Company will also be liable to and pay MISO its court costs and reasonable attorney's fees incurred in enforcing MISO's covenants, agreements, representations and warranties herein.
- 18.0 Employees Bound by Agreement.** The representative executing this Agreement hereby acknowledges and agrees that he/she is duly authorized to execute this Agreement on behalf of Company and that this Agreement shall bind and be enforceable by and against the employees, agents, or consultants of Company. The authorized representative of Company further acknowledges and agrees that only those employees who are listed on

the attached Appendix A incorporated herein shall be authorized to receive Confidential Information directly from MISO and that he/she will notify MISO in writing of any modification to Appendix A prior to releasing Confidential Information to those employees listed on Appendix A.

- 19.0 Notices.** All notices and other communications hereunder shall be in writing and shall be deemed given if delivered personally or by commercial delivery service, or mailed by registered or certified mail (return receipt requested) or sent via facsimile (with acknowledgment of complete transmission) to the parties at the following addresses (or at such other address for a party as shall be specified by like notice):

if to MISO, to: 720 West City Center Drive  
Carmel, Indiana 46032  
Attn: General Counsel  
Facsimile No.: (317) 249-5912

if to \_\_\_\_\_, to: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Facsimile No.: \_\_\_\_\_

- 20.0 Entire Agreement.** The Parties agree that this Agreement, including Appendix A incorporated herein and as modified, constitute their entire agreement with respect to the subject matter hereof and that it supersedes any prior agreements or understandings between them, whether written or oral.

Company acknowledges that it has read the Agreement, had the opportunity to discuss it with counsel, and is executing it with an understanding of its provisions. This Agreement may be executed in two or more counterparts, each of which will be deemed an original and all of which together will constitute one and the same document.

*remainder of page left intentionally blank*

[signatures appear on following page]

**IN WITNESS WHEREOF**, the Parties have caused this Agreement to be executed,  
effective as of the day, month and year written above.

**Midcontinent Independent System Operator, Inc.**

**Midcontinent Independent System  
Operator, Inc.**

**Company:**

\_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

Print name: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

Fax: \_\_\_\_\_

**APPENDIX A TO ATTACHMENT C  
TO MISO UNIVERSAL NON-DISCLOSURE AND  
CONFIDENTIALITY AGREEMENT**

Company, \_\_\_\_\_ Employees, Agents, or Consultants  
subject to Confidentiality Agreement as of this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_:

|     | <u>Print Name</u> | <u>Title</u> | <u>E-mail Address</u> | <u>Transmission/Reliability or<br/>Merchant/Market, or N/A*</u> |
|-----|-------------------|--------------|-----------------------|-----------------------------------------------------------------|
| 1.  |                   |              |                       |                                                                 |
| 2.  |                   |              |                       |                                                                 |
| 3.  |                   |              |                       |                                                                 |
| 4.  |                   |              |                       |                                                                 |
| 5.  |                   |              |                       |                                                                 |
| 6.  |                   |              |                       |                                                                 |
| 7.  |                   |              |                       |                                                                 |
| 8.  |                   |              |                       |                                                                 |
| 9.  |                   |              |                       |                                                                 |
| 10. |                   |              |                       |                                                                 |

(Attach Additional Pages If Necessary)

\* An individual who is an employee of a Transmission Provider (as defined in 18 C.F.R. § 358.3(k) may not be subject to the FERC functional separation requirements (*i.e.*, “N/A” designation) under certain circumstances in accordance with FERC Order No. 717 and the FERC regulations therein adopted. If such an individual would receive information subject to this Amendment, the copy of this Appendix A executed for that individual must be accompanied by written confirmation from Company stating the following: (1) the designated individual is not engaged in transmission or marketing functions (*i.e.*, day-to-day duties and responsibilities for planning, directing, organizing or carrying out operations); (2) the individual has received training on the Standards of Conduct; and (3) the individual undertakes



to comply with such Standards, including in particular the “no conduit rule” set forth in 18 C.F.R. § 358.6.

NOTE: Any changes to the information on this Appendix A must be submitted electronically to the Transmission Provider in the manner specified by the Generator Interconnection Business Practices Manual (BPM-015).

**ATTACHMENT D TO APPENDIX 1: CRITICAL ENERGY INFRASTRUCTURE**  
**INFORMATION GENERAL NON-DISCLOSURE AGREEMENT**

WHEREAS, Midcontinent Independent System Operator, Inc. (“MISO”) is prepared to disclose Critical Energy Infrastructure Information (“CEII”) under this Critical Energy Infrastructure Information General Non-Disclosure Agreement (“NDA”) to \_\_\_\_\_ (“Recipient”), an individual (employee, manager or officer) employed with \_\_\_\_\_, in connection with a legitimate need for the CEII (the “Purpose”) (MISO and Recipient may be collectively referred to as “Parties” or singly as “Party”);

WHEREAS, Recipient represents that he/she has a legitimate purpose for requesting the CEII pursuant to this Agreement; and,

WHEREAS, MISO and Recipient desire to set forth in writing the terms and conditions of their agreement.

NOW THEREFORE, in consideration of the mutual promises, covenants, representations and agreements contained in this Agreement and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Definitions - For purposes of these provisions:

- a. The term “CEII” shall include specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure that: (1) relates details about the production, generation, transportation, transmission, or distribution of energy; (2) could be useful to a person in planning an attack on critical infrastructure; (3) is exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. 552 (2000); and (4) does not simply give the general location of the critical infrastructure. Narratives such as the descriptions of facilities and processes are generally not CEII unless they describe specific engineering and design details of critical infrastructure.

- b. The term “Recipient” means someone who has executed this NDA and is approved to receive CEII.
2. A Recipient certifies that it is his/her understanding that access to CEII is provided pursuant to the terms and restrictions of the provisions in this NDA, and that such Recipient has read the provisions and agrees to be bound by them.
3. Recipient may only discuss CEII with another Recipient of the identical CEII. A Recipient may check with MISO to determine whether another individual is a Recipient of the identical CEII.
4. A Recipient of CEII may use CEII as foundation for advice provided to others, but may not disclose CEII to another individual unless that individual is an approved Recipient of the same CEII.
5. A Recipient will not knowingly use CEII for an illegal or non-legitimate purpose.
6. All CEII shall be maintained by Recipient in a secure place. Access to those materials shall be limited to other Recipients of the identical material. Recipients may make copies of CEII, but such copies become CEII and subject to these same procedures. Recipients may make notes of CEII, which shall be treated as CEII notes if they contain CEII.
7. Recipients must return CEII to MISO or destroy CEII within fifteen days of a written request by MISO to do so, except that CEII notes may be retained in accordance with Paragraph 6, above. Within such time period, each Recipient, if requested to do so, shall also submit to MISO an affidavit stating that, to the best of his or her knowledge, all CEII has been returned or destroyed and that CEII notes have either been returned, destroyed or are being maintained by Recipient in accordance with Paragraph 6.

8. The Recipient remains bound by these provisions unless MISO rescinds the provisions or a court of competent jurisdiction finds that the information does not qualify as CEII.

9. MISO may reasonably audit the Recipient's compliance with this NDA.

10. Violation of this NDA will be reported to the Federal Energy Regulatory Commission (the "Commission") which in turn may result in criminal or civil sanctions against the Recipient.

11. I hereby certify my understanding that access to CEII is provided to me pursuant to the terms and restrictions of the above CEII provisions, that I have been given a copy of and have read the provisions, and that I agree to be bound by them. I understand that the contents of the CEII, any notes or other memoranda, or any other form of information that copies or discloses CEII shall not be disclosed to anyone other than another person who has been granted access to these same materials. I acknowledge that a violation of this NDA may result in criminal or civil sanctions, including the suspension of my ability to appear before the Commission pursuant to 18 C.F.R. § 385.2102. I agree that my compliance with this NDA is subject to reasonable audit by MISO.

By: \_\_\_\_\_

Signature

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Representing: \_\_\_\_\_

Date: \_\_\_\_\_

**ATTACHMENT E TO APPENDIX 1: SITE CONTROL DEMONSTRATION**

Midcontinent Independent System Operator, Inc.  
Attn: Manager, Queue Administration  
720 City Center Drive  
Carmel, IN 46032

**[Date]**

Subject: Proof of Site Control Affidavit

1. The undersigned (“Affiant”) is an officer or an agent of the Interconnection Customer for the Interconnection Request associated with **[Project Name]**.
2. Affiant affirms that all of the Site Control documents for **[Project Name]** required pursuant to Section 7.2 of Attachment X of the MISO Tariff are submitted to MISO in their entirety.
3. Affiant has reviewed all such Site Control documents submitted for **[Project Name]** and has personal knowledge of its contents.
4. Affiant hereby affirms that the Interconnection Customer **[PLEASE SELECT FROM THE FOLLOWING:**  
\_\_\_\_ **(1) possesses Site Control for (Project Name) in accordance with Sections 7.2.1.1 of this GIP; OR**  
\_\_\_\_ **(2) is presently subject to regulatory restrictions that preclude Interconnection Customer from obtaining Site Control for (Project Name) pursuant to Section 7.2.1.2 of this GIP].**
5. **[TO THE EXTENT THAT REGULATORY RESTRICTIONS PRECLUDE SITE CONTROL PURSUANT TO GIP SECTION 7.2.1.2]** In accordance with Section 7.2.1.2 of the GIP, attached hereto the affiant provides a description of conditions that

must be met in order to satisfy the regulatory restrictions and the anticipated time by which the Interconnection Customer expects to satisfy the regulatory restrictions.

Sincerely,

**[Affiant signature]**

**[Affiant printed name]**

**[Affiant title]**

**[Affiant company name]**

**APPENDIX 6 TO GIP**  
**GENERATOR INTERCONNECTION AGREEMENT (GIA)**

**THIS GENERATOR INTERCONNECTION AGREEMENT (“GIA”)** is made and entered into this \_\_\_\_ day of \_\_\_\_\_ 20\_\_, by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State/Commonwealth of \_\_\_\_\_ (“Interconnection Customer” with a Generating Facility), and \_\_\_\_\_, a [corporation] organized and existing under the laws of the State/Commonwealth of \_\_\_\_\_ (“Transmission Owner”), and the **Midcontinent Independent System Operator, Inc.**, a non-profit, non-stock corporation organized and existing under the laws of the State of Delaware (“Transmission Provider”). Interconnection Customer, Transmission Owner and Transmission Provider each may be referred to as a “Party,” or collectively as the “Parties.”

**RECITALS**

**WHEREAS**, Transmission Provider has functional control of the operations of the Transmission System, as defined herein, and is responsible for providing Transmission Service and Interconnection Service on the transmission facilities under its control; and

**WHEREAS**, Interconnection Customer intends to own, lease and/or control and operate the Generating Facility identified as a Generating Facility in Appendix A to this GIA; and

**WHEREAS**, Transmission Owner owns or operates the Transmission System, whose operations are subject to the functional control of Transmission Provider, to which Interconnection Customer desires to connect the Generating Facility, and may therefore be required to construct certain Interconnection Facilities and Network Upgrades, as set forth in this GIA; and

**WHEREAS**, Interconnection Customer, Transmission Owner and Transmission Provider

have agreed to enter into this GIA, and where applicable subject to Appendix H for a Provisional Generator Interconnection Agreement, for the purpose of interconnecting the Generating Facility with the Transmission System;

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein, it is agreed:



## ARTICLE 1. DEFINITIONS

When used in this GIA, terms with initial capitalization that are not defined in Article 1 shall have the meanings specified in the Article in which they are used. Those capitalized terms used in this GIA that are not otherwise defined in this GIA have the meaning set forth in the Tariff.

**10 kW Inverter Process** shall mean the procedure for evaluating an Interconnection Request for a certified inverter-based Small Generating Facility no larger than 10 kW that uses the screen set forth in Section 14.

**Adverse System Impact** shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

**Affected System** shall mean an electric transmission or distribution system or the electric system associated with an Existing Generating Facility or of a higher queued Generating Facility, which is an electric system other than the Transmission Owner's Transmission System that is affected by the Interconnection Request. An Affected System may or may not be subject to FERC jurisdiction.

**Affected System Operator** shall mean the entity that operates an Affected System.

**Affiliate** shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

**Ancillary Services** shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation

of the Transmission System in accordance with Good Utility Practice.

**Applicable Laws and Regulations** shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority having jurisdiction over the Parties, their respective facilities and/or the respective services they provide.

**Applicable Reliability Council** shall mean the Regional Entity of NERC applicable to the Local Balancing Authority of the Transmission System to which the Generating Facility is directly interconnected.

**Applicable Reliability Standards** shall mean Reliability Standards approved by the Federal Energy Regulatory Commission (FERC) under section 215 of the Federal Power Act, as applicable.

**Base Case** shall mean the base case power flow, short circuit, and stability databases used for the Interconnection Studies by Transmission Provider or Interconnection Customer.

**Base Case Data** shall mean base case power flow, short circuit and stability databases, including all underlying assumptions, and contingency lists. Such databases and lists, hereinafter referred to as Base Cases, shall include all (1) generation projects and (2) transmission projects, including merchant transmission projects that are proposed for the Transmission System for which a transmission expansion plan has been submitted and approved by the MISO Board.

**Breach** shall mean the failure of a Party to perform or observe any material term or condition of this GIA.

**Breaching Party** shall mean a Party that is in Breach of this GIA.

**Business Day** shall mean Monday through Friday, excluding Federal Holidays.

**Calendar Day** shall mean any day including Saturday, Sunday or a Federal Holiday. In the event that a period specified in this GIA is calculated in Calendar Days ends on a non-business day, such period shall be deemed to conclude on the following business day.

**Commercial Operation** shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

**Commercial Operation Date (COD)** of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to this GIA.

**Commitment Projection** shall mean a projection of the number of MW expected to commit to the JTIQ Portfolio from ERAS and all DPP study clusters that already have passed DP1 as described in Section 9.4.2.e.ii of Rate Schedule 6 (MISO SPP-JOA).

**Common Use Upgrade (CUU)** shall mean an Interconnection Facility, Network Upgrade, System Protection Facility, or any other classified addition, alteration, or improvement on the Transmission System or the transmission system of an Affected System, not classified under Attachment FF as a Baseline Reliability Project, Market Efficiency Project, or Multi-Value Project, that is needed for the interconnection of multiple Interconnection Customers' Generating Facilities and which is the shared responsibility of such Interconnection Customers.

**Confidential Information** shall mean any proprietary or commercially or competitively sensitive information, trade secret or information regarding a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, or any other information as specified in Article 22, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in

writing, through inspection, or otherwise, that is received by another Party.

**Connection Facilities** shall mean the Transmission Owner's Connection Facilities and the MHVDC Connection Customer's Connection Facilities, as defined in the MHCP.

**Contingent Facilities** shall mean those unbuilt Interconnection Facilities and Network Upgrades upon which the Interconnection Request's costs, timing and study findings are dependent, and if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing. Contingent Facilities may include facilities identified in MTEP that if delayed or not built could impact the timing of the Interconnection Request.

**Default** shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of this GIA.

**Definitive Planning Phase** shall mean the Generator Interconnection Procedures process which leads to a Generator Interconnection Agreement. An Interconnection Customer enters the Definitive Planning Phase pursuant to GIP Section 7.2. The Definitive Planning Phase includes three distinct phases (Definitive Planning Phases I, II, and III) pursuant to Section 7 of the Generator Interconnection Procedures.

**Definitive Planning Phase Queue Position** shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, in the Definitive Planning Phase. The Definitive Planning Phase Queue Position is established based upon the date Interconnection Customer satisfies all of the requirements of GIP Section 7.2 to enter the Definitive Planning Phase. All Interconnection Requests within the same Definitive Planning Phase cycle shall have equal priority (i.e. similarly queued).

**Demonstrated Capability** shall mean the continuous net real power output that the Generating Facility is required to demonstrate in compliance with Applicable Reliability

Standards.

**Dispute Resolution** shall mean the procedure for resolution of a dispute between or among the Parties in which they will first attempt to resolve the dispute on an informal basis.

**Distribution System** shall mean the Transmission Owner's facilities and equipment, or the Distribution System of another party that is interconnected with the Transmission Owner's Transmission System, if any, connected to the Transmission System, over which facilities Transmission Service or Wholesale Distribution Service under the Tariff is available at the time Interconnection Customer has requested interconnection of a Generating Facility for the purpose of either transmitting electric energy in interstate commerce or selling electric energy at wholesale in interstate commerce and which are used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among Local Balancing Authorities and other entities owning distribution facilities interconnected to the Transmission System.

**Distribution Upgrades** shall mean the additions, modifications, and upgrades to the Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the delivery service necessary to affect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

**Effective Date** shall mean the date on which this GIA becomes effective upon execution by the Parties subject to acceptance by the Commission, or if filed unexecuted, upon the date specified by the Commission.

**Emergency Condition** shall mean a condition or situation: (1) that in the reasonable judgment of the Party making the claim is imminently likely to endanger, or is contributing to the endangerment of, life, property, or public health and safety; or (2) that, in the case of either

Transmission Provider or Transmission Owner, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission System, Transmission Owner's Interconnection Facilities or the electric systems of others to which the Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and blackstart shall be considered Emergency Conditions; provided that Interconnection Customer is not obligated by this GIA to possess blackstart capability. Any condition or situation that results from lack of sufficient generating capacity to meet load requirements or that results solely from economic conditions shall not constitute an Emergency Condition, unless one of the enumerated conditions or situations identified in this definition also exists.

**Energy Displacement Agreement** shall mean an agreement between an Interconnection Customer with an Existing Generating Facility on the Transmission Provider's Transmission System and an Interconnection Customer with a proposed Generating Facility seeking to interconnect with Surplus Interconnection Service. The Energy Displacement Agreement specifies the term of operation, the Generating Facility Interconnection Service limit, and the mode of operation for energy production (common or singular operation).

**Energy Resource Interconnection Service (ER Interconnection Service)** shall mean an Interconnection Service that allows Interconnection Customer to connect its Generating Facility to the Transmission System or Distribution System, as applicable, to be eligible to deliver the Generating Facility's electric output using the existing firm or non-firm capacity of the Transmission System on an as available basis. Energy Resource Interconnection Service does not convey transmission service.

**Engineering & Procurement (E&P) Agreement** shall mean an agreement that authorizes Transmission Owner to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of

the Interconnection Request.

**Environmental Law** shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

**Existing Generating Facility** shall mean a Generating Facility that is either under construction or is in service, and has an unsuspended interconnection agreement with its host transmission provider.

**Expanded Scope Analysis** shall mean the analysis described in Section 9.4.2.d.iv.a of Rate Schedule 6 (MISO-SPP JOA).

**Expedited Resource Addition Study (ERAS)** shall mean the temporary procedure for expediting interconnection projects identified for claimed resource adequacy and/or reliability needs.

**Expedited Generator Interconnection Agreement (EGIA)** shall mean the interconnection agreement for the Expedited Resource Addition Study established between the Transmission Provider and/or the Transmission Owner and the Interconnection Customer as set forth in Section 3.9 of this Attachment X. This agreement shall take the form of the Transmission Provider's *pro forma* Generator Interconnection Agreement modified for the Expedited Resource Addition Study. Unless otherwise provided in the GIP, all requirements applicable to the *pro forma* Generator Interconnection Agreement shall apply to the Expedited Generator Interconnection Agreement.

**Facilities Construction Agreement (FCA)** shall mean the form of facilities construction agreement, set forth in Appendix 8 to these Generator Interconnection Procedures. The FCA shall be used when an Interconnection Customer causes the need for the construction of Network Upgrades or System Protection Facilities on the transmission system of an Affected System.

**Fast Track Process** shall mean the procedure for evaluating an Interconnection Request

for a certified Small Generating Facility no larger than five MW that includes the screen set forth in Section 14, customer options meeting, and optional supplemental review.

**Federal Holiday** shall mean a Federal Reserve Bank holiday for a Party that has its principal place of business in the United States and a Canadian Federal or Provincial banking holiday for a Party that has its principal place of business located in Canada.

**Federal Power Act** shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a *et seq.*

**FERC** shall mean the Federal Energy Regulatory Commission, also known as Commission, or its successor.

**Final System Impact Study** shall mean the Interconnection System Impact Study performed during Definitive Planning Phase III.

**Force Majeure** shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include an act of negligence or intentional wrongdoing by the Party claiming Force Majeure.

**Generating Facility** shall mean Interconnection Customer's device(s) for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities. A Generating Facility consists of one or more generating unit(s) and/or storage device(s) which usually can operate independently and be brought online or taken offline individually.

**Generating Facility Capacity** shall mean the net capacity of the Generating Facility and



the aggregate net capacity of the Generating Facility where it includes multiple energy production devices.

**Generating Facility Modification** shall mean modification to an Existing Generating Facility, including comparable replacement of only a portion of its equipment at the Existing Generating Facility.

**Generating Facility Replacement** shall mean replacement of one or more generating units and/or storage devices at the Existing Generating Facility with one or more new generating units or storage devices at the same electrical Point of Interconnection as the generating units and/or storage devices that is/are being decommissioned and electrically disconnected.

**Generator Interconnection Agreement (GIA)** shall mean the form of interconnection agreement, set forth herein.

**Generator Interconnection Procedures (GIP)** shall mean the interconnection procedures set forth in Attachment X of the Tariff.

**Generator Upgrades** shall mean the additions, modifications, and upgrades to the electric system of an Existing Generating Facility or of a higher queued Generating Facility at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the Transmission Service necessary to affect Interconnection Customer's wholesale sale of electricity in interstate commerce.

**Good Utility Practice** shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method,

or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

**Governmental Authority** shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer, Transmission Provider, Transmission Owner, or any Affiliate thereof.

**Group Study(ies)** shall mean the process whereby more than one Interconnection Request is studied together, instead of serially, for the purpose of conducting one or more of the required Studies.

**Hazardous Substances** shall mean any chemicals, materials or substances defined as or included in the definition of “hazardous substances,” “hazardous wastes,” “hazardous materials,” “hazardous constituents,” “restricted hazardous materials,” “extremely hazardous substances,” “toxic substances,” “radioactive substances,” “contaminants,” “pollutants,” “toxic pollutants” or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

**HVDC Facilities** shall mean the high voltage direct current transmission facilities, including associated alternating current facilities, if any, that are subject to Section 27A of the Tariff and that are specifically identified in (i) any Agency Agreement pertaining to such facilities between Transmission Provider and Transmission Owner that owns or operates such facilities, or (ii) in any other arrangement that permits or will permit Transmission Provider to provide HVDC Service over such facilities as set forth in Section 27A of the Tariff.

**HVDC Service** shall mean Firm and Non-Firm Point-To-Point Transmission Service provided by Transmission Provider on HVDC Facilities pursuant to Section 27A of the Tariff.

**Initial Synchronization Date** shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

**Injection Rights** shall mean the Transmission Provider's pre-certification of the Transmission System's capability to receive capacity and energy from the MHVDC Transmission Line at the requested Point of Connection, and in the specified MW quantity, without degrading the reliability of the Transmission System, as described in Section 16 of the GIP and Section 3.2.3 of the MHCP.

**In-Service Date (ISD)** shall mean the date upon which Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Owner's Interconnection Facilities to obtain backfeed power.

**Interconnection Customer** shall mean any entity, including Transmission Provider, Transmission Owner or any of the Affiliates or subsidiaries of either, that proposes to interconnect its Generating Facility with the Transmission System.

**Interconnection Customer Decision Point I** shall mean the time period beginning when the Interconnection Customer is provided the Preliminary System Impact Study results including cost estimates for upgrades and concludes after fifteen (15) Business Days.

**Interconnection Customer Decision Point II** shall mean the time period beginning when the Interconnection Customer is provided the Revised System Impact Study results including cost estimates for upgrades and the Affected Systems analysis results including cost estimates for upgrades on the Affected System and concludes after fifteen (15) Business Days.

**Interconnection Customer's Interconnection Facilities (ICIF)** shall mean all facilities

and equipment, as identified in Appendix A of this GIA, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission System or Distribution System, as applicable. Interconnection Customer's Interconnection Facilities are sole use facilities.

**Interconnection Facilities** shall mean the Transmission Owner's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission System. Interconnection Facilities shall not include Distribution Upgrades, Generator Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Interconnection Facilities Study(ies)** shall mean a study conducted by Transmission Provider, or its agent, for Interconnection Customer to determine a list of facilities (including Transmission Owner's Interconnection Facilities, System Protection Facilities, and if such upgrades have been determined, Network Upgrades, Distribution Upgrades, Generator Upgrades, Common Use Upgrades, and upgrades on Affected Systems, as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Transmission System.

**Interconnection Facilities Study Agreement** shall mean the form of agreement contained in Appendix 4 of the Generator Interconnection Procedures for conducting the Interconnection Facilities Study.

**Interconnection Request** shall mean (1) an Interconnection Customer's request, in the form of Appendix 1 to the Generator Interconnection Procedures, to interconnect a new Generating Facility, or a request for the Expedited Resource Addition Study for new generation capacity, or to increase the capacity of, or make a Material Modification to the operating

characteristics of, an Existing Generating Facility that is interconnected with the Transmission System, or to interconnect an Existing Generating Facility that is external to the Transmission System, or to change Energy Resource Interconnection Service to Network Resource Interconnection Service for an Existing Generating Facility; or (2) an MHVDC Connection Customer's request, in the form of Appendix 1 to the Generator Interconnection Procedures, to obtain Injection Rights..

**Interconnection Service** shall mean the service provided by Transmission Provider associated with interconnecting the Generating Facility to the Transmission System, or external host transmission provider if applicable, and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection pursuant to the terms of this Generator Interconnection Agreement or Point of Delivery as set forth in the Service Agreement for Network Resource Interconnection Service for an External Generating Facility and, if applicable, the Tariff.

**Interconnection Study (or Study)** shall mean any of the studies described in the Generator Interconnection Procedures.

**Interconnection Study Agreement** shall mean the form of agreement contained in Attachment B to Appendix 1 of the Generator Interconnection procedures for conducting all studies required by the Generator Interconnection Procedures.

**Interconnection System Impact Study** shall mean an engineering study that evaluates the impact of the proposed interconnection on the safety and reliability of Transmission System and, if applicable, an Affected System. The study shall identify and detail the system impacts that would result if the Generating Facility were interconnected without project modifications or system modifications, or to study potential impacts, including but not limited to those identified in the Scoping Meeting as described in the Generator Interconnection Procedures.

**Interconnection Study Agreement** shall mean the forms of agreement contained in

Attachment B to Appendix 1 of the Generator Interconnection Procedures for conducting all studies required by the Generator Interconnection Procedures.

**IRS** shall mean the Internal Revenue Service.

**Joint Operating Agreement between the Midcontinent Independent System Operator, Inc. and Southwest Power Pool, Inc. (MISO-SPP JOA)** shall mean Rate Schedule 6 to the MISO Tariff.

**Joint Targeted Interconnection Queue (JTIQ)** shall refer to the study and processes described in Section 9.4.2 of Rate Schedule 6 (MISO-SPP JOA).

**Joint Targeted Interconnection Queue Study (“JTIQ Study”)** shall mean a transmission planning study conducted jointly by SPP and MISO to facilitate the interconnection of new generator capacity in both Parties’ regions.

**JTIQ Commitment Group Member** shall mean any JTIQ Commitment Group Member included in a Commitment Group consistent with Section 9.4 of Rate Schedule 6 (MISO-SPP JOA).

**JTIQ Commitment Group or Commitment Group** shall mean a group of JTIQ Commitment Group Members that have executed a JTIQ Generator Interconnection Agreement within the twelve (12) month period ending April 30<sup>th</sup> of each year. The Commitment Group shall also include JTIQ Commitment Group Members for which a JTIQ Generator Interconnection Agreement has been filed unexecuted by SPP or the Transmission Provider and the Commission has accepted the agreement within the twelve (12) month period ending April 30<sup>th</sup> of each year.

**JTIQ Generator Charge** shall mean the charge to JTIQ Commitment Group Members to recover the JTIQ Commitment Group Member’s share of the JTIQ Monthly Revenue

Requirement for each of the JTIQ Upgrades in the JTIQ Portfolio in the Transmission Provider's Region.

**JTIQ Participation Group** shall mean the group of Interconnection Requests that shall consist of all interconnection customers included in the JTIQ Screening Groups whose interconnection request meets the distribution factor and impact criteria specified in Section 9.4.2(d)(ii) of Rate Schedule 6 (MISO-SPP JOA).

**JTIQ Portfolio** shall mean a group of JTIQ Upgrades identified pursuant to Section 9.4 of Rate Schedule 6 (MISO-SPP JOA).

**JTIQ Screening Group** shall mean a group of MISO Interconnection Customers and SPP interconnection customers whose Interconnection Requests will be screened for inclusion in a JTIQ Participation Group. The JTIQ Screening Group shall consist of all interconnection customers who have submitted interconnection requests into a MISO ERAS, SPP ERAS, DPP study cluster, or SPP DISIS study cluster that: (1) has a study commencement or kick off date that is after the date that the Parties' respective Boards of Directors have approved a JTIQ Portfolio; and (2) has not commenced DPP Phase I, a MISO ERAS, the SPP ERAS or DISIS Phase One studies pursuant to each party's OATT as of the date that the Parties have declared the JTIQ Portfolio fully subscribed.

**JTIQ Service Agreements** shall mean the JTIQ Commitment Agreement attached to the MISO GIA as Appendix 17 and the SPP's *pro forma* agreement(s) that obligate interconnection customers to provide security for and pay the JTIQ Generator Charge for JTIQ Network Upgrades included in the applicable JTIQ Portfolio.

**JTIQ Upgrade** shall mean a Network Upgrade included in a JTIQ portfolio pursuant to Section 9.4 of Rate Schedule 6 (MISO-SPP JOA).

**Local Balancing Authority** shall mean an operational entity or a Joint Registration

Organization which is (i) responsible for compliance with the subset of NERC Balancing Authority Reliability Standards defined in the Balancing Authority Agreement for their local area within the MISO Balancing Authority Area, (ii) a Party to Balancing Authority Agreement, excluding MISO, and (iii) provided in the Balancing Authority Agreement.

**Local Resource Zone (LRZ)** shall mean a geographic area within the Transmission Provider Region that is prescribed by the Transmission Provider, based upon the criteria in Section 68A.3, to address congestion that limits Planning Resource deliverability.

**Loss** shall mean any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under this GIA on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing, by the indemnified party.

**Material Modification** shall mean: (1) modification to an Interconnection Request in the queue, that has a material adverse impact on the cost or timing of any other Interconnection Request with a later queue priority date; or Qualified Change.

**Metering Equipment** shall mean all metering equipment installed or to be installed at the Generating Facility, Interconnection Customer's Interconnection Facilities, and/or Transmission Owner's Interconnection Facilities pursuant to this GIA at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

**Monitoring and Consent Agreement** shall mean an agreement that defines the terms and conditions applicable to a Generating Facility acquiring Surplus Interconnection Service. The Monitoring and Consent Agreement will list the roles and responsibilities of an Interconnection Customer seeking to interconnect with Surplus Interconnection Service and



Transmission Owner to maintain the total output of the Generating Facility inside the parameters delineated in the GIA.

**Multi-Party Facilities Construction Agreement (MPFCA)** shall mean the form of facilities construction agreement, set forth in Appendix 9 to these Generator Interconnection Procedures. The MPFCA shall be used when multiple Interconnection Requests cause the need for the construction of Common Use Upgrades on the Transmission System or the transmission system of an Affected System and share cost responsibility for such Common Use Upgrades.

**NERC** shall mean the North American Electric Reliability Corporation or its successor organization.

**Network Customer** shall have that meaning as provided in the Tariff.

**Network Resource** shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

**Network Resource Interconnection Service (NR Interconnection Service)** shall mean an Interconnection Service that allows Interconnection Customer to integrate its Generating Facility with the Transmission System in the same manner as for any Generating Facility being designated as a Network Resource. Network Resource Interconnection Service does not convey transmission service. Network Resource Interconnection Service shall include any network resource interconnection service established under an agreement with, or the tariff of, a Transmission Owner prior to integration into MISO, that is determined to be deliverable through the integration deliverability study process.

**Network Upgrades** shall mean the additions, modifications, and upgrades to the Transmission System required at or beyond the point at which the Interconnection Facilities

connect to the Transmission System or Distribution System, as applicable, to accommodate the interconnection of the Generating Facility(ies) to the Transmission System. Network Upgrades shall not include any HVDC Facility Upgrades.

**Notice of Dispute** shall mean a written notice of a dispute or claim that arises out of or in connection with this GIA or its performance.

**Optional Interconnection Study** shall mean a sensitivity analysis based on assumptions specified by Interconnection Customer in the Optional Interconnection Study Agreement.

**Optional Interconnection Study Agreement** shall mean the form of agreement contained in Appendix 5 of the Generator Interconnection Procedures for conducting the Optional Interconnection Study.

**Outage Transfer Distribution Factor (OTDF)** Outage Transfer Distribution Factor, as defined by NERC.

**Party or Parties** shall mean Transmission Provider, Transmission Owner, Interconnection Customer, or any combination of the above.

**Permissible Technological Advancement** shall mean advancements to turbines, inverters, plant supervisory controls, excitation systems, or other technological advancements submitted to the Transmission Provider prior to the issuance of this draft Generator Interconnection Agreement for such project provided that such advancements does not: (1) degrade the electrical characteristics of the generating equipment; (2) does not cause any material adverse impact on the Transmission System with regard to short circuit capability limits, steady-state thermal and voltage limits, or dynamic system stability and response; (3) does not increase the installed capacity of the Generating Facility; or (4) change the fuel source of the proposed Generating Facility.

**Point of Change of Ownership (PCO)** shall mean the point, as set forth in Appendix A to the Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Owner's Interconnection Facilities.

**Point of Interconnection (POI)** shall mean the point, as set forth in Appendix A of the GIA, where the Interconnection Facilities connect to the Transmission System.

**Potential MW Total** shall mean a projection of the number of MW that may commit to the JTIQ Portfolio from all ERAS and study clusters to date, including the current study cluster(s).

**Preliminary System Impact Study** shall mean the Interconnection System Impact Study performed during Definitive Planning Phase I.

**Pre-Queue Phase** shall mean Interconnection Customer outreach and education effort undertaken prior to the submission of the Interconnection Request.

**Provisional Generator Interconnection Agreement** shall mean the interconnection agreement for Provisional Interconnection Service established between the Transmission Provider and/or the Transmission Owner and the Interconnection Customer as set forth in Section 7.9 of this Attachment X. This agreement shall take the form of the Generator Interconnection Agreement modified for provisional purposes. Unless otherwise provided in the GIP, all requirements applicable to the Generator Interconnection Agreement shall apply to the Provisional Generator Interconnection Agreement.

**Provisional Interconnection Service** shall mean Interconnection Service provided by the Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to the Transmission Provider's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the

Point of Interconnection, pursuant to the terms of the Provisional Generator Interconnection Agreement and the Tariff.

**Provisional Interconnection Study** shall mean an engineering study, performed at Interconnection Customer's request, as a condition to entering into a Provisional Generator Interconnection Agreement, that evaluates the impact of the proposed interconnection on the safety and reliability of the Transmission System and, if applicable, any Affected System. The study shall identify and detail the impacts on the Transmission System and, if applicable, an Affected System, from stability, short circuit, and voltage issues that would result if the Generating Facility were interconnected without project modifications or system modifications.

**Qualified Change** shall mean a planned modification to an Existing Generating Facility that is undergoing evaluation for a Generating Facility Modification or Generating Facility Replacement, and has a material adverse impact on the Transmission System with respect to: i) steady-state thermal or voltage limits, ii) dynamic system stability and response, or iii) short-circuit capability limit; compared to the impacts of the Existing Generating Facility prior to the modification or replacement.

**Queue Position** shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests. The Queue Position is established based upon the date and time of receipt of the valid Interconnection Request by Transmission Provider.

**Reasonable Efforts** shall mean, with respect to an action required to be attempted or taken by a Party under this Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

**Relevant Electric Retail Regulatory Authority (RERRA)** shall mean an entity that has jurisdiction over and establishes prices and/or policies for providers of retail electric service to end-customers, such as the city council for a municipal utility, the governing board of a cooperative utility, the state public utility commission or any such entity.

**Reliability Assessment Study** shall mean an engineering study that evaluates the impact of a proposed Generating Facility Replacement on the reliability of Transmission System during the time period between the date that the Existing Generating Facility ceases commercial operations and the Commercial Operation Date of the Replacement Generating Facility.

**Replacement Generating Facility** shall mean a Generating Facility that replaces an Existing Generating Facility, or a portion thereof, at the same electrical Point of Interconnection pursuant to Section 3.7 of this Attachment X.

**Replacement Impact Study** shall mean an engineering study that evaluates the impact of a proposed Generating Facility Replacement on the reliability of the Transmission System.

**Revised System Impact Study** shall mean the Interconnection System Impact Study performed during Definitive Planning Phase II.

**Scoping Meeting** shall mean the meeting between representatives of Interconnection Customer, Transmission Owner, Affected System Operator(s) and Transmission Provider conducted for the purpose of discussing alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

**Shared Network Upgrade** shall mean a Network Upgrade or Common Use Upgrade that is funded by an Interconnection Customer(s), including when the Transmission Owner elects to fund the capital cost of such a Network Upgrade or Common Use Upgrade under Section 11.3 of the GIA, and also benefits other Interconnection Customer(s) that are later identified as beneficiaries.

**Site Control** shall mean a documented right for one or more parcels of land for the

purpose of constructing a Generating Facility, Interconnection Customer's Interconnection Facilities, and, if applicable (*i.e.*, when the Interconnection Customer is providing the site for such facilities), the Transmission Owner's Interconnection Facilities and Network Upgrades at the POI that the Interconnection Customer will develop. Such documented right shall be one of the following: (1) ownership of a site; (2) a leasehold interest in a site; or (3) an option to purchase or acquire a leasehold interest in a site; or (4) any other contractual or legal right to possess or occupy a site.

**Small Generating Facility** shall mean a Generating Facility that has an aggregate net Generating Facility Capacity of no more than five MW and meets the requirements of Section 14 and Appendix 3 of the GIP.

**Southwest Power Pool (SPP)** shall refer to the Southwest Power Pool, Inc. the Regional Transmission Organization that is the counterparty to Rate Schedule 6 (MISO-SPP JOA).

**Special Protection System (SPS)** shall mean an automatic protection system or remedial action scheme designed to detect abnormal or predetermined system conditions, and take corrective actions other than and/or in addition to the isolation of faulted components, to maintain system reliability. Such action may include changes in demand (MW and MVar), energy (MWh and MVarh), or system configuration to maintain system stability, acceptable voltage, or power flows. An SPS does not include (a) underfrequency or undervoltage load shedding, (b) fault conditions that must be isolated, (c) out-of-step relaying not designed as an integral part of an SPS, or (d) Transmission Control Devices.

**Stand Alone Network Upgrades** shall mean Network Upgrades, that are not part of an Affected System or a JTIQ Upgrade, that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Transmission Provider, Transmission Owner and Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to this GIA. If the Transmission Provider or Transmission Owner and Interconnection Customer disagree

about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Provider or Transmission Owner that disagrees with the Interconnection Customer must provide the Interconnection Customer a written technical explanation outlining why the Transmission Provider or Transmission Owner does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

**Supplemental Affected System Analysis** shall mean the affected systems analysis described in Section 7.3.2.3.1 of this GIP and Section 9.4.2.e.iii.a.i of the Rate Schedule 6 (MISO-SPP JOA) to determine if Supplemental Affected System Upgrades are required for one or more JTIQ Participation Group member(s).

**Supplemental Affected System Upgrade** shall mean a Network Upgrade in addition to those required to address the impact of interconnection requests in the current study cluster as described in Section 9.4.2.e.iii.a.i of Rate Schedule 6 (MISO-SPP-JOA).

**Surplus Interconnection Service** shall mean any Interconnection Service that is derived from the unneeded portion of Interconnection Service established in a GIA or in agreement with, or under the tariff of, a Transmission Owner prior to integration into MISO, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same.

**System Planning and Analysis Phase** shall mean the phase of the Generator Interconnection Procedure process, prior to January 4, 2017, which consisted of an Interconnection System Impact Study for those Interconnection Requests that were studied in this phase.

**System Protection Facilities** shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Transmission System or other delivery systems or other generating systems from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical

system disturbances occurring on the Transmission System or on other delivery systems or other generating systems to which the Transmission System is directly connected.

**Target MW Value** shall mean the projected new generation interconnection MW enabled by the JTIQ Portfolio. The Target MW Value for each JTIQ Portfolio shall be identified in Section 9.4 and related subsections of Rate Schedule 6.

**Tariff** shall mean the Transmission Provider's Tariff through which open access transmission service and Interconnection Service are offered, as filed with the Commission, and as amended or supplemented from time to time, or any successor tariff.

**Threshold Charge** shall mean the charge calculated using an estimate of plant in service value for the JTIQ Portfolio, excluding amounts funded under the GRIP Program, as described in Section 9.4.2 of Rate Schedule 6 (MISO-SPP JOA).

**Transmission Control Devices** shall mean a generally accepted transmission device that is planned and designed to provide dynamic control of electric system quantities, and are usually employed as solutions to specific system performance issues. Examples of such devices include fast valving, high response exciters, high voltage DC links, active or real power flow control and reactive compensation devices using power electronics (*e.g.*, unified power flow controllers), static var compensators, thyristor controlled series capacitors, braking resistors, and in some cases mechanically-switched capacitors and reactors. In general, such systems are not considered to be Special Protection Systems.

**Transmission Owner** shall mean that Transmission Owner as defined in the Tariff, which includes an entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at which Interconnection Customer proposes to interconnect or otherwise integrate the operation of the Generating Facility. Transmission Owner should be read to include any Independent Transmission Company that manages the transmission facilities of Transmission Owner and shall include, as applicable, the owner and/or operator of distribution



facilities interconnected to the Transmission System, over which facilities transmission service or Wholesale Distribution Service under the Tariff is available at the time Interconnection Customer requests Interconnection Service and to which Interconnection Customer has requested interconnection of a Generating Facility for the purpose of either transmitting electric energy in interstate commerce or selling electric energy at wholesale in interstate commerce.

**Transmission Provider** shall mean the Midcontinent Independent System Operator, Inc. (“MISO”), the Regional Transmission Organization that controls or operates the transmission facilities of its transmission-owning members used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff.

**Transmission Owner’s Interconnection Facilities (TOIF)** shall mean all facilities and equipment owned by Transmission Owner from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to this GIA, including any modifications, additions or upgrades to such facilities and equipment. Transmission Owner’s Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Generator Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Transmission System** shall mean the facilities owned by Transmission Owner and controlled or operated by Transmission Provider or Transmission Owner that are used to provide Transmission Service (including HVDC Service) or Wholesale Distribution Service under the Tariff.

**Trial Operation** shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

**Variable Energy Resource** shall mean a device for the production of electricity that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or

operator.

**Wholesale Distribution Service** shall have that meaning as provided in the Tariff.  
Wherever the term “transmission delivery service” is used, Wholesale Distribution Service shall also be implied.

## ARTICLE 2. EFFECTIVE DATE, TERM AND TERMINATION

**2.1 Effective Date.** This GIA shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by FERC. Transmission Provider shall promptly file this GIA with FERC upon execution in accordance with Article 3.1, if required.

**2.2 Term of Agreement.** Subject to the provisions of Article 2.3, this GIA shall remain in effect for a period of \_\_\_\_\_ years from the Effective Date and shall be automatically renewed for each successive one-year period thereafter on the anniversary of the Effective Date.

**2.3 Termination Procedures.** This GIA may be terminated as follows:

**2.3.1 Written Notice.** This GIA may be terminated by Interconnection Customer after giving Transmission Provider and Transmission Owner ninety (90) Calendar Days advance written notice. This GIA shall be terminated by Transmission Provider if the Generating Facility or a portion of the Generating Facility fails to achieve Commercial Operation by the Commercial Operation Date established in accordance with Section 4.4.4 of Attachment X, including any extension provided thereunder, or has ceased Commercial Operation for three (3) consecutive years, beginning with the last date of Commercial Operation for the Generating Facility, after giving Interconnection Customer ninety (90) Calendar Days advance written notice. Where only a portion of the Generating Facility fails to achieve Commercial Operation by the Commercial Operation Date established in accordance with Section 4.4.4 of Attachment X, including any extension provided thereunder, Transmission Provider shall only terminate that portion of the GIA. Notwithstanding the foregoing, in the limited circumstance that the Interconnection Request is served by a contingent Network Upgrade with an in-service date that is farther out than the Commercial Operation Date permitted

under Section 4.4.4 of Attachment X, Transmission Provider shall only terminate this GIA for failure to achieve Commercial Operation by that later in-service date of the contingent Network Upgrade. The Generating Facility will not be deemed to have ceased Commercial Operation for purposes of this Article 2.3.1 if Interconnection Customer can document that it has taken other significant steps to maintain or restore operational readiness of the Generating Facility for the purpose of returning the Generating Facility to Commercial Operation as soon as possible.

**2.3.1.1 Surplus Interconnection Service.** Where this GIA provides for Surplus Interconnection Service and the Energy Displacement Agreement or the Monitoring and Consent Agreement required for Surplus Interconnection Service are no longer in effect, Interconnection Customer shall immediately cease Commercial Operation of the Generating Facility and this GIA shall be deemed terminated. In the event that the Existing Generating Facility retires and/or permanently ceases commercial operation, the Surplus Interconnection Service provided under this GIA shall terminate except as provided in Section 3.3.1.3 of the GIP.

**2.3.2 Default.** Any Party may terminate this GIA in accordance with Article 17.

**2.3.3** Notwithstanding Articles 2.3.1 and 2.3.2, no termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this GIA, if required, which notice has been accepted for filing by FERC.

For EGIsAs, no termination shall become effective until Interconnection Customer has provided all security as required by Section 2.4.

**2.4 Termination Costs.** If a Party elects to terminate this GIA pursuant to Article 2.3 above, each Party shall pay all costs incurred for which that Party is responsible (including any cancellation costs relating to orders or contracts for Interconnection Facilities, applicable upgrades, and related equipment) or charges assessed by the other Parties, as of the date of the other Parties' receipt of such notice of termination, under this GIA. In the event that this GIA is terminated by Interconnection Customer, Interconnection Customer is responsible for all financial impact that is caused as a result of this termination or the termination of Interconnection Customer's FCA(s) or MPFCA(s), such financial impact being determined through the financial impact analysis performed in accordance with Section 7.8 of Attachment X. In the event of termination by a Party, the Parties shall use commercially Reasonable Efforts to mitigate the costs, damages and charges arising as a consequence of termination. Upon termination of this GIA, unless otherwise ordered or approved by FERC:

In the event that this EGIA is terminated by Interconnection Customer that had an Interconnection Request studied in ERAS, Interconnection Customer is responsible for the full cost of all Network Upgrades identified in this EGIA as well as any Network Upgrades identified during the ERAS process that are to be memorialized in an agreement other than this EGIA, including any applicable FCA, MPFCA, or JTIQ Service Agreements. If the Network Upgrade costs for Network Upgrades subject to an FCA, MPFCA, or JTIQ Service Agreement have not been finalized or the Interconnection Customer has not made the payment under such agreement as of the date that termination of this EGIA is sought, Interconnection Customer shall provide the payment or security for such Network Upgrades in the amount required by the applicable agreement. If such agreement has not been executed and final costs are not available as of a date that termination is sought, Interconnection Customer shall provide such payment or security in an amount corresponding to the most recent estimate provided by the Transmission Provider during the ERAS process. Interconnection Customer shall pay or Transmission Provider shall refund, as applicable, to Interconnection Customer the difference between

the amount of any estimated payment or security made pursuant to this Article and the final cost of such NU within ninety (90) Calendar Days after such final costs are invoiced to the Interconnection Customer.

**2.4.1** With respect to any portion of the Transmission Owner's Interconnection Facilities, Network Upgrades, System Protection Facilities, Distribution Upgrades, Generator Upgrades, and if so determined and made a part of this GIA, upgrades on Affected Systems, that have not yet been constructed or installed, Transmission Owner shall to the extent possible and to the extent of Interconnection Customer's written notice under Article 2.3.1, cancel any pending orders of, or return, any materials or equipment for, or contracts for construction of, such facilities; provided that in the event Interconnection Customer elects not to authorize such cancellation, Interconnection Customer shall assume all payment obligations with respect to such materials, equipment, and contracts, and Transmission Owner shall deliver such material and equipment, and, if necessary, assign such contracts, to Interconnection Customer as soon as practicable, at Interconnection Customer's expense. To the extent that Interconnection Customer has already paid Transmission Owner for any or all such costs of materials or equipment not taken by Interconnection Customer or upgrades not yet constructed, Transmission Owner shall promptly transfer such amounts to Transmission Provider, less any costs, including penalties incurred by Transmission Owner to cancel any pending orders of or return such materials, equipment, or contracts. Transmission Provider will perform a financial impact analysis in accordance with Section 7.8 of Attachment X to determine the amount that should be refunded to Interconnection Customer. Transmission Provider shall refund such remaining amounts to Interconnection Customer, less the amount of Automatic Withdrawal Penalty funds received by the Interconnection Customer in accordance with Section 7.8.1 of the Attachment X and less any financial impact caused by the termination of this GIA or Interconnection Customer's FCA(s) or MPFCA(s), as determined through the analysis performed in accordance with

Section 7.8 of Attachment X. If Interconnection Customer made its payment(s) through a letter of credit, surety bond, or parental guarantee, Transmission Owner will draw against that letter of credit, surety bond, or parental guarantee in an amount determined through the analysis performed in accordance with Section 7.8 of Attachment X plus the amount of any Automatic Withdrawal Penalty funds received by the Interconnection Customer in accordance with Section 7.8.1 of the Attachment X, and transfer that amount to Transmission Provider, unless Interconnection Customer funds the financial impact through another means.

If an Interconnection Customer terminates this GIA, it shall be responsible for all costs incurred in association with that Interconnection Customer's interconnection, including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment, and other expenses including any upgrades or related equipment for which Transmission Owner has incurred expenses and has not been reimbursed by Interconnection Customer.

**2.4.2** Transmission Owner may, at its option, retain any portion of such materials, equipment, or facilities that Interconnection Customer chooses not to accept delivery of, in which case Transmission Owner shall be responsible for all costs associated with procuring such materials, equipment, or facilities. If Transmission Owner does not so elect, then Interconnection Customer shall be responsible for such costs.

**2.4.3** With respect to any portion of the Interconnection Facilities, and any other facilities already installed or constructed pursuant to the terms of this GIA, Interconnection Customer shall be responsible for all costs associated with the removal, relocation, reconfiguration or other disposition or retirement of such materials, equipment, or facilities, and such other expenses actually incurred by Transmission Owner necessary to return the Transmission, Distribution or Generator System, as applicable, to safe and reliable operation.

- 2.5 Disconnection.** Upon termination of this GIA, the Parties will take all appropriate steps to disconnect the Generating Facility from the Transmission or Distribution System, as applicable. All costs required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from the non-terminating Party's Default of this GIA or such non-terminating Party otherwise is responsible for these costs under this GIA.
- 2.6 Survival.** This GIA shall continue in effect after termination to the extent necessary to provide for final billings and payments and for costs incurred hereunder, including billings and payments pursuant to this GIA; to permit the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this GIA was in effect; and to permit each Party to have access to the lands of the other Party pursuant to this GIA or other applicable agreements, to disconnect, remove or salvage its own facilities and equipment.

### ARTICLE 3. REGULATORY FILINGS

- 3.1 Filing.** Transmission Provider shall file this GIA (and any amendment hereto) with the appropriate Governmental Authority, if required. A Party may request that any information so provided be subject to the confidentiality provisions of Article 22. If that Party has executed this GIA, or any amendment thereto, the Party shall reasonably cooperate with Transmission Provider with respect to such filing and to provide any information reasonably requested by Transmission Provider needed to comply with applicable regulatory requirements.

### ARTICLE 4. SCOPE OF SERVICE

- 4.1 Interconnection Product Options.** Interconnection Customer has selected the following (checked) type of Interconnection Service:



Check: \_\_\_\_\_ SI or \_\_\_\_\_ ER and/or \_\_\_\_\_ NR (See Appendix A for details)

**4.1.1 Energy Resource Interconnection Service (ER Interconnection Service).**

**4.1.1.1 The Product.** ER Interconnection Service allows Interconnection Customer to connect the Generating Facility to the Transmission or Distribution System, as applicable, and be eligible to deliver the Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. To the extent Interconnection Customer wants to receive ER Interconnection Service, Transmission Owner shall construct facilities consistent with the studies identified in Appendix A.

An Interconnection Customer seeking ER Interconnection Service for new or added capacity at a Generating Facility may be granted conditional ER Interconnection Service status to the extent there is such capacity available on the Transmission System to accommodate the Interconnection Customer's Generating Facility. At the request of Interconnection Customer, conditional ER Interconnection Service status may be granted subject to the system being able to accommodate the interconnection without upgrades, until such time as a higher queued project(s) with a later service date affecting the same common elements is placed into service. The conditional ER Interconnection Service shall be terminated in the event Interconnection Customer fails to fund the necessary studies and the Network Upgrades necessary to grant the Interconnection Customer's ER Interconnection Service upon the completion of higher queued projects involving the same common elements.

**4.1.1.2 Transmission Delivery Service Implications.** Under ER

Interconnection Service, Interconnection Customer will be eligible to inject power from the Generating Facility into and deliver power across the Transmission System on an “as available” basis up to the amount of MW identified in the applicable stability and steady state studies to the extent the upgrades initially required to qualify for ER Interconnection Service have been constructed. After that date FERC makes effective MISO’s Energy Market Tariff filed in Docket No. ER04-691-000, Interconnection Customer may place a bid to sell into the market up to the maximum identified Generating Facility output, subject to any conditions specified in the Interconnection Service approval, and the Generating Facility will be dispatched to the extent the Interconnection Customer’s bid clears. In all other instances, no transmission or other delivery service from the Generating Facility is assured, but Interconnection Customer may obtain Point-To-Point Transmission Service, Network Integration Transmission Service or be used for secondary network transmission service, pursuant to the Tariff, up to the maximum output identified in the stability and steady state studies. In those instances, in order for Interconnection Customer to obtain the right to deliver or inject energy beyond the Point of Interconnection or to improve its ability to do so, transmission delivery service must be obtained pursuant to the provisions of the Tariff. The Interconnection Customer’s ability to inject its Generating Facility output beyond the Point of Interconnection, therefore, will depend on the existing capacity of the Transmission or Distribution System as applicable, at such time as a Transmission Service request is made that would accommodate such delivery. The provision of Firm Point-To-Point Transmission Service or Network Integration Transmission Service may require the construction of additional Network or Distribution Upgrades.

#### **4.1.2 Network Resource Interconnection Service (NR Interconnection Service).**

**4.1.2.1 The Product.** Transmission Provider must conduct the necessary studies and Transmission Owner shall construct the facilities identified in Appendix A of this GIA, subject to the approval of Governmental Authorities, needed to integrate the Generating Facility in the same manner as for any Generating Facility being designated as a Network Resource.

**4.1.2.2 Transmission Delivery Service Implications.** NR Interconnection Service allows the Generating Facility to be designated by any Network Customer under the Tariff on the Transmission System as a Network Resource, up to the Generating Facility's full output, on the same basis as existing Network Resources that are interconnected to the Transmission or Distribution System, as applicable, and to be studied as a Network Resource on the assumption that such a designation will occur. Although NR Interconnection Service does not convey a reservation of Transmission Service, any Network Customer can utilize Network Integration Transmission Service under the Tariff to obtain delivery of energy from the Generating Facility in the same manner as it accesses Network Resources. A Generating Facility receiving NR Interconnection Service may also be used to provide Ancillary Services after technical studies and/or periodic analyses are performed with respect to the Generating Facility's ability to provide any applicable Ancillary Services, provided that such studies and analyses have been or would be required in connection with the provision of such Ancillary Services by any existing Network Resource. However, if the Generating Facility has not been designated as a Network Resource by any Network Customer, it cannot be required to provide Ancillary Services except to the extent such requirements extend to all generating

facilities that are similarly situated. The provision of Network Integration Transmission Service or Firm Point-To-Point Transmission Service may require additional studies and the construction of additional upgrades. Because such studies and upgrades would be associated with a request for delivery service under the Tariff, cost responsibility for the studies and upgrades would be in accordance with FERC's policy for pricing transmission delivery services.

NR Interconnection Service does not necessarily provide Interconnection Customer with the capability to physically deliver the output of its Generating Facility to any particular load on the Transmission System without incurring congestion costs. In the event of transmission or distribution constraints on the Transmission or Distribution System, as applicable, the Generating Facility shall be subject to the applicable congestion management procedures in the Transmission System in the same manner as Network Resources.

There is no requirement either at the time of study or interconnection, or at any point in the future, that the Generating Facility be designated as a Network Resource by a Network Customer or that Interconnection Customer identify a specific buyer (or sink). To the extent a Network Customer does designate the Generating Facility as a Network Resource, it must do so pursuant to the Tariff.

Once an Interconnection Customer satisfies the requirements for obtaining NR Interconnection Service, any future Transmission Service request for delivery from the Generating Facility within the Transmission System of any amount of capacity and/or energy, up to the amount initially studied, will not require that any additional studies be performed or that any further upgrades associated with such Generating

Facility be undertaken, regardless of whether such Generating Facility is ever designated by a Network Customer as a Network Resource and regardless of changes in ownership of the Generating Facility. To the extent Interconnection Customer enters into an arrangement for long term Transmission Service for deliveries from the Generating Facility to customers other than the studied Network Customers, or for any Point-To-Point Transmission Service, such request may require additional studies and upgrades in order for Transmission Provider to grant such request. However, the reduction or elimination of congestion or redispatch costs may require additional studies and the construction of additional upgrades.

To the extent Interconnection Customer enters into an arrangement for long term Transmission Service for deliveries from the Generating Facility outside the Transmission System, such request may require additional studies and upgrades in order for Transmission Provider to grant such request.

**4.1.2.3 Conditional NR Interconnection Service.** An Interconnection Customer seeking NR Interconnection Service for new or added capacity at a Generating Facility may be granted conditional NR Interconnection Service status to the extent there is such capacity available on the Transmission System to accommodate the Interconnection Customer's Generating Facility. At the request of Interconnection Customer, conditional NR Interconnection Service status may be granted subject to the system being able to accommodate the interconnection without upgrades, until such time as higher queued project(s) with a later service date affecting the same common elements is placed into service. The conditional NR Interconnection Service status may be converted to ER Interconnection Service if either of the following occurs:

- 1) Interconnection Customer fails to fund necessary studies and Network Upgrades required to allow the Interconnection Customer's Generating Facility to receive NR Interconnection Service upon the completion of higher queued projects involving the same common elements; or
- 2) The higher queued project(s) or planned and required Network Upgrades are placed in service and the Network Upgrades required to provide NR Interconnection Service status to the Interconnection Customer's Generating Facility are not in service.

In the event Interconnection Customer fails to fund the necessary studies and Network Upgrades for NR Interconnection Service, the Interconnection Customer's conditional NR Interconnection Service status shall be converted to ER Interconnection Service status unless Interconnection Customer makes a new Interconnection Request. Such new Interconnection Request shall be evaluated in accordance with the GIP and its new queue position.

Some or all of the conditional NR Interconnection Service status may be temporarily revoked if the Network Upgrades are not in service when the higher queued project(s) are placed in service. The availability of conditional NR Interconnection Service status will be determined by Transmission Provider's studies. Upon funding and completion of the Network Upgrades required to establish the Generating Facility's NR Interconnection Service status, the Generating Facility will be granted NR Interconnection Service status.

The Parties agree that the portion of the Generating Facility classified as

NR Interconnection Service is the first portion of the output of the combined output of all the units at the Generating Facility except in circumstances where Interconnection Customer otherwise elects this GIA, as amended, to allocate that portion to the output of specific unit(s) at the Generating Facility, the total of which will not exceed the output eligible for NR Interconnection Service as shown by the additional studies. To the extent Interconnection Customer desires to obtain NR Interconnection Service for any portion of the Generating Facility in addition to that supported by such additional studies, Interconnection Customer will be required to request such additional NR Interconnection Service through a separate Interconnection Request in accordance with the GIP.

#### **4.1.3 Surplus Interconnection Service (SI).**

**4.1.3.1 The Product.** Surplus Interconnection Service is restricted Interconnection Service that allows an Interconnection Customer to increase the gross generating capability at the same Point of Interconnection of an Existing Generating Facility without increasing the total amount of Interconnection Service at the Point of Interconnection.

**4.1.3.2 Transmission Delivery Service Implications.** Surplus Interconnection Service does not convey any right to deliver electricity to any specific customer or Point of Delivery.

**4.2 Provision of Service.** Transmission Provider shall provide Interconnection Service for the Generating Facility at the Point of Interconnection.

**4.3 Performance Standards.** Each Party shall perform all of its obligations under this GIA in accordance with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice. To the extent a Party is required or prevented or limited in

taking any action by such regulations and standards, or if the obligations of any Party may become limited by a change in Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice after the execution of this GIA, that Party shall not be deemed to be in Breach of this GIA for its compliance therewith. The Party so limited shall notify the other Parties whereupon Transmission Provider shall amend this GIA in concurrence with the other Parties and submit the amendment to the Commission for approval.

- 4.4 No Transmission Delivery Service.** The execution of this GIA does not constitute a request for, or the provision of, any transmission delivery service under the Tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery.
- 4.5 Interconnection Customer Provided Services.** The services provided by Interconnection Customer under this GIA are set forth in Article 9.6 and Article 13.4.1. Interconnection Customer shall be paid for such services in accordance with Article 11.7.

## **ARTICLE 5. INTERCONNECTION FACILITIES ENGINEERING, PROCUREMENT, AND CONSTRUCTION**

- 5.1 Options.** Unless otherwise mutually agreed to between the Parties, Interconnection Customer shall select: 1) the In-Service Date, Initial Synchronization Date, and Commercial Operation Date based on a reasonable construction schedule that will allow sufficient time for design, construction, equipment procurement, and permit acquisition of Transmission System equipment or right-of-way; and 2) either the Standard Option or Alternate Option set forth below and such dates and selected option shall be set forth in Appendix B. If the dates designated by Interconnection Customer are not acceptable to Transmission Owner, Transmission Owner shall so notify Interconnection Customer within thirty (30) Calendar Days. Upon receipt of the notification that Interconnection Customer's designated dates are not acceptable to Transmission Owner, the



Interconnection Customer shall notify Transmission Owner within thirty (30) Calendar Days whether it elects to exercise the Option to Build if it has not already elected to exercise the Option to Build.

**5.1.1 Standard Option.** Transmission Owner shall design, procure, and construct the Transmission Owner's Interconnection Facilities, Network Upgrades, System Protection Facilities, Distribution Upgrades, and Generator Upgrades using Reasonable Efforts to complete the Transmission Owner's Interconnection Facilities, Network Upgrades, System Protection Facilities, Distribution Upgrades and Generator Upgrades by the dates set forth in Appendix B, Milestones, subject to the receipt of all approvals required from Governmental Authorities and the receipt of all land rights necessary to commence construction of such facilities, and such other permits or authorizations as may be required. Transmission Provider or Transmission Owner shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, Applicable Laws and Regulations and Good Utility Practice. In the event Transmission Owner reasonably expects that it will not be able to complete the Transmission Owner's Interconnection Facilities, Network Upgrades, System Protection Facilities, Distribution Upgrades and Generator Upgrades by the specified dates, Transmission Owner shall promptly provide written notice to Interconnection Customer and Transmission Provider and shall undertake Reasonable Efforts to meet the earliest dates thereafter.

**5.1.2 Alternate Option.** If the dates designated by Interconnection Customer are acceptable to Transmission Provider and Transmission Owner, Transmission Provider shall so notify Interconnection Customer within thirty (30) Calendar Days, and Transmission Owner shall assume responsibility for the design, procurement and construction of the Transmission Owner's Interconnection Facilities by the designated dates.

If Transmission Owner subsequently fails to complete the Transmission Owner's Interconnection Facilities by the In-Service Date, to the extent necessary to provide back feed power; or fails to complete Network Upgrades by the Initial Synchronization Date to the extent necessary to allow for Trial Operation at full power output, unless other arrangements are made by the Parties for such Trial Operation; or fails to complete the Network Upgrades by the Commercial Operation Date, as such dates are reflected in Appendix B, Milestones; Transmission Owner shall pay Interconnection Customer liquidated damages in accordance with Article 5.3, Liquidated Damages, provided, however, the dates designated by Interconnection Customer shall be extended day for day for each Calendar Day that Transmission Provider refuses to grant clearances to install equipment.

Transmission Owner and Interconnection Customer may adopt an incentive payment schedule that is mutually agreeable to encourage Transmission Owner to meet specified accelerated dates. Such payment by Interconnection Customer is not subject to refund.

**5.1.3 Option to Build.** Pursuant to Section 7.3.2.5 & 7.3.3.5 of the GIP, Interconnection Customer shall have the option to assume responsibility for the design, procurement and construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades by the dates originally designated by Interconnection Customer under Article 5.1.2. The Parties must agree as to what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix A. Except for Stand Alone Network Upgrades, Interconnection Customer shall have no right to construct Network Upgrades under this option.

**5.1.4 Negotiated Option.** If the dates designated by Interconnection Customer pursuant to Article 5.1 are not acceptable to Transmission Owner, the Parties shall in good faith attempt to negotiate terms and conditions (including revision of the specified dates and liquidated damages, the provision of incentives, or the procurement and construction of all facilities other than Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build under Article 5.1.3). If the Parties are unable to reach agreement on such terms and conditions, then, pursuant to Article 5.1.1 (Standard Option), Transmission Owner shall assume responsibility for the design, procurement and construction of all facilities other than Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer has elected to exercise the Option to Build.

Transmission Owner and Interconnection Customer may adopt an incentive payment schedule that is mutually agreeable to encourage Transmission Owner to meet specified accelerated dates. Such payment by Interconnection Customer is not subject to refund.

**5.2 General Conditions Applicable to Option to Build.** If Interconnection Customer assumes responsibility for the design, procurement and construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades after receipt of all required approvals from Governmental Authorities necessary to commence construction,

(1) Interconnection Customer shall engineer, procure equipment, and construct the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades (or portions thereof) using Good Utility Practice and using standards and specifications provided in advance by Transmission Owner, or as required by any Governmental Authority;

(2) Interconnection Customer's engineering, procurement and construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades shall comply with all requirements of law or Governmental Authority to which Transmission Owner would be subject in the engineering, procurement or construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades;

(3) Transmission Provider, at Transmission Provider's option, and Transmission Owner shall be entitled to review and approve the engineering design, equipment acceptance tests(including witnessing of acceptance tests), and the construction (including monitoring of construction) of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades, and shall have the right to reject any design, procurement, construction or acceptance test of any equipment that does not meet the standards and specifications of Transmission Provider, Transmission Owner and any Governmental Authority;

(4) prior to commencement of construction, Interconnection Customer shall provide to Transmission Provider and Transmission Owner a schedule for construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades, and shall promptly respond to requests for information from Transmission Provider and Transmission Owner;

(5) at any time during construction, Transmission Provider and Transmission Owner shall have unrestricted access to the construction site for the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades and to conduct inspections of the same;

(6) at any time during construction, should any phase of the engineering, equipment procurement, or construction of the Transmission Owner's

Interconnection Facilities and Stand Alone Network Upgrades not meet the standards and specifications provided by Transmission Owner, Interconnection Customer shall be obligated to remedy deficiencies in that portion of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to meet the standards and specifications provided by Transmission Provider and Transmission Owner;

(7) Interconnection Customer shall indemnify Transmission Provider and Transmission Owner for claims arising from the Interconnection Customer's construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades under the terms and procedures applicable to Article 18.1, Indemnity;

(8) Interconnection Customer shall transfer control of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to Transmission Owner;

(9) Unless Parties otherwise agree, Interconnection Customer shall transfer ownership of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to Transmission Owner in accordance with Appendix B;

(10) Transmission Provider, at Transmission Provider's option, and Transmission Owner shall approve and accept for operation and maintenance the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to the extent engineered, procured, and constructed in accordance with this Article 5.2 only if the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades meet the standards and specifications of Transmission Provider, Transmission Owner and any Governmental Authority.

(11) Interconnection Customer shall deliver to Transmission Owner “as-built” drawings, information, and any other documents that are reasonably required by Transmission Owner to assure that the Interconnection Facilities and Stand-Alone Network Upgrades are built to the standards and specifications required by Transmission Owner.

(12) If Interconnection Customer exercises the Option to Build pursuant to Article 5.1.3, Interconnection Customer shall pay Transmission Owner the agreed upon amount of [\$ PLACEHOLDER] for Transmission Owner to execute the responsibilities enumerated to Transmission Owner under Article 5.2. Transmission Owner shall invoice Interconnection Customer for this total amount to be divided on a monthly basis pursuant to Article 12.

(13) If Interconnection Customer exercises the Option to Build pursuant to Article 5.1.3, and the Transmission Owner has elected to fund the costs of Network Upgrades pursuant to Article 11.3, then prior to Interconnection Customer incurring any construction costs relating to the Option to Build and by the date specified in Appendix B, Interconnection Customer shall invoice the Transmission Owner for the estimated amount to be expended by the Interconnection Customer to construct any Stand Alone Network Upgrades for which the Interconnection Customer has exercised its Option to Build in accordance with Appendix B. The Transmission Owner shall be required to reimburse Interconnection Customer for the full amount of such invoiced costs by the date specified in Appendix B, which shall be prior to the date by which Interconnection Customer must make any construction payment for such Stand Alone Network Upgrades. After completion of the construction of Stand Alone Network Upgrades by the Interconnection Customer and by the date specified in Appendix B for the Interconnection Customer to transfer such Stand Alone Network Upgrades to the Transmission Owner, Interconnection Customer shall provide an invoice of the final cost of the construction of Stand Alone Upgrades

and shall set forth such costs in sufficient detail to enable the Transmission Owner to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. In the event that the actual costs exceed the estimated costs previously invoiced by Interconnection Customer and paid by Transmission Owner, Transmission Owner shall pay to Interconnection Customer the difference between the amount previously paid and the actual costs within thirty (30) Calendar Days after receipt of a final construction invoice from Interconnection Customer. In the event that the actual costs are less than the estimated costs previously invoiced by Interconnection Customer and paid by Transmission Owner, Interconnection Customer shall refund, with interest (calculated in accordance with 18 C.F.R. Section 35.19a(a)(2)(iii)), to Transmission Owner any amount by which the actual payment by Transmission Owner for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice. Following the transfer of the Stand Alone Network Upgrades from the Interconnection Customer to the Transmission Owner, the Interconnection Customer shall make payments for such facilities to the Transmission Owner pursuant to an agreement between and among the Parties.

- 5.3 Liquidated Damages.** The actual damages to Interconnection Customer, in the event the Transmission Owner's Interconnection Facilities or Network Upgrades are not completed by the dates designated by Interconnection Customer and accepted by Transmission Provider and Transmission Owner pursuant to subparagraphs 5.1.2 or 5.1.4, above, may include Interconnection Customer's fixed operation and maintenance costs and lost opportunity costs. Such actual damages are uncertain and impossible to determine at this time. Because of such uncertainty, any liquidated damages paid by Transmission Owner to Interconnection Customer in the event that Transmission Owner does not complete any portion of the Transmission Owner's Interconnection Facilities or Network Upgrades by the applicable dates, shall be an amount equal to  $\frac{1}{2}$  of 1 percent per day of the actual cost of the Transmission Owner's Interconnection Facilities and Network Upgrades, in the

aggregate, for which Transmission Owner has assumed responsibility to design, procure and construct.

However, in no event shall the total liquidated damages exceed 20 percent of the actual cost of the Transmission Owner's Interconnection Facilities and Network Upgrades for which Transmission Owner has assumed responsibility to design, procure, and construct. The foregoing payments will be made by Transmission Owner to Interconnection Customer as just compensation for the damages caused to Interconnection Customer, which actual damages are uncertain and impossible to determine at this time, and as reasonable liquidated damages, but not as a penalty or a method to secure performance of this GIA. Liquidated damages, when the Parties agree to them, are the exclusive remedy for the Transmission Owner's failure to meet its schedule.

No liquidated damages shall be paid to Interconnection Customer if: (1) Interconnection Customer is not ready to commence use of the Transmission Owner's Interconnection Facilities or Network Upgrades to take the delivery of power for the Generating Facility's Trial Operation or to export power from the Generating Facility on the specified dates, unless Interconnection Customer would have been able to commence use of the Transmission Owner's Interconnection Facilities or Network Upgrades to take the delivery of power for Generating Facility's Trial Operation or to export power from the Generating Facility, but for Transmission Owner's delay; (2) the Transmission Owner's failure to meet the specified dates is the result of the action or inaction of Transmission Provider, Interconnection Customer or any other earlier queued Interconnection Customer who has entered into an earlier GIA with Transmission Provider and/or a Transmission Owner or with an Affected System Operator, or any cause beyond Transmission Owner's reasonable control or reasonable ability to cure; (3) Interconnection Customer has assumed responsibility for the design, procurement and construction of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades; (4) the delay is due to the inability of Transmission Owner to obtain all required approvals from Governmental Authorities in a timely manner for the



construction of any element of the Interconnection Facilities, Network Upgrades or Stand Alone Network Upgrades, or any other permit or authorization required, or any land rights or other private authorizations that may be required, and Transmission Owner has exercised Reasonable Efforts in procuring such approvals, permits, rights or authorizations; or (5) the Parties have otherwise agreed.

**5.4 Power System Stabilizers.** Interconnection Customer shall procure, install, maintain and operate power system stabilizers in accordance with the guidelines and procedures established by the Applicable Reliability Council. Transmission Provider and Transmission Owner reserve the right to reasonably establish minimum acceptable settings for any installed power system stabilizers, subject to the design and operating limitations of the Generating Facility. If the Generating Facility's power system stabilizers are removed from service or are not capable of automatic operation, Interconnection Customer shall immediately notify the Transmission Provider's system operator, or its designated representative. The requirements of this paragraph shall not apply to induction generators.

**5.5 Equipment Procurement.** If responsibility for construction of the Transmission Owner's Interconnection Facilities, Network Upgrades and/or Distribution Upgrades is to be borne by Transmission Owner, then Transmission Owner shall commence design of the Transmission Owner's Interconnection Facilities, Network Upgrades and/or Distribution Upgrades, and procure necessary equipment as soon as practicable after all of the following conditions are satisfied, unless the Parties otherwise agree in writing:

**5.5.1** Transmission Provider has completed the Interconnection Facilities Study pursuant to the Interconnection Facilities Study Agreement; and

**5.5.2** Where applicable, Interconnection Customer has provided security to Transmission Owner in accordance with Article 11.6 by the dates specified in Appendix B, Milestones.

**5.6 Construction Commencement.** Transmission Owner shall commence construction of the Transmission Owner's Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, Distribution Upgrades, and Generator Upgrades for which it is responsible as soon as practicable after the following additional conditions are satisfied:

**5.6.1** Approval of the appropriate Governmental Authority has been obtained for any facilities requiring regulatory approval; and

**5.6.2** Where applicable, Interconnection Customer has provided security to Transmission Owner in accordance with Article 11.6 by the dates specified in Appendix B, Milestones.

**5.7 Work Progress.** Transmission Owner and Interconnection Customer will keep each other and Transmission Provider advised periodically as to the progress of their respective design, procurement and construction efforts. Either Transmission Owner or Interconnection Customer may, at any time, request a progress report from the other, with a copy to be provided to the other Parties. If, at any time, Interconnection Customer determines that the completion of the Transmission Owner's Interconnection Facilities, Network Upgrades, or Transmission Owner's System Protection Facilities will not be required until after the specified In-Service Date, Interconnection Customer will provide written notice to Transmission Provider and Transmission Owner of such later date upon which the completion of the Transmission Owner's Interconnection Facilities, Network Upgrades or Transmission Owner's System Protection Facilities will be required. Transmission Owner may delay the In-Service Date of its facilities accordingly.

**5.8 Information Exchange.** As soon as reasonably practicable after the Effective Date, the Parties shall exchange information regarding the design and compatibility of the Interconnection Facilities and compatibility of the Interconnection Facilities with the

Transmission System or Distribution System, as applicable, and shall work diligently and in good faith to make any necessary design changes.

## **5.9 Other Interconnection Options.**

**5.9.1 Limited Operation.** If any of the Transmission Owner's Interconnection Facilities, Network Upgrades, or Transmission Owner's System Protection Facilities, Distribution Upgrades or Generator Upgrades are not reasonably expected to be completed prior to the Commercial Operation Date of the Generating Facility, Transmission Provider shall, upon the request and at the expense of Interconnection Customer, perform operating studies on a timely basis to determine the extent to which the Generating Facility and the Interconnection Customer's Interconnection Facilities may operate prior to the completion of the Transmission Owner's Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, Distribution Upgrades or Generator Upgrades consistent with Applicable Laws and Regulations, Applicable Reliability Standards, Good Utility Practice, and this GIA. Transmission Provider and Transmission Owner shall permit Interconnection Customer to operate the Generating Facility and the Interconnection Customer's Interconnection Facilities in accordance with the results of such studies; provided, however, such studies reveal that such operation may occur without detriment to the Transmission System as then configured and in accordance with the safety requirements of Transmission Owner and any Governmental Authority.

The maximum permissible output of the Generating Facility will be updated on a quarterly basis if the Network Upgrades necessary for the interconnection of the Generating Facility pursuant to this GIA are not in service within six (6) months following the Commercial Operation Date of the Generating Facility as specified in Appendix B of this GIA. These quarterly studies will be performed using the same methodology set forth in Section 11.5 of the GIP. These quarterly updates

will end when all Network Upgrades necessary for the interconnection of the Generating Facility pursuant to this GIA are in service.

#### **5.9.2 Provisional Interconnection Service.**

Upon the request of Interconnection Customer, and prior to completion of requisite Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities Transmission Provider may execute a Provisional Generator Interconnection Agreement or Interconnection Customer may request the filing of an unexecuted Provisional Generator Interconnection Agreement with the Interconnection Customer for limited interconnection service at the discretion of Transmission Provider based upon an evaluation that will consider the results of available studies. Transmission Provider shall determine, through available studies or additional studies as necessary, whether stability, short circuit, thermal, and/or voltage issues would arise if Interconnection Customer interconnects without modifications to the Generating Facility or Transmission Provider's system. Transmission Provider shall determine whether any Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities that are necessary to meet the requirements of NERC, or any applicable Regional Entity for the interconnection of a new, modified and/or expanded Generating Facility are in place prior to the commencement of interconnection service from the Generating Facility. Where available studies indicate that such Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities that are required for the interconnection of a new, modified and/or expanded Generating Facility are not currently in place, Transmission Provider will perform a study, at the Interconnection Customer's expense, to confirm the facilities that are required for Provisional Interconnection Service. The maximum permissible output of the Generating Facility in the Provisional Generator Interconnection Agreement shall be studied and updated on a quarterly basis. Interconnection Customer assumes all risk and liabilities with respect to changes between the Provisional Generator

Interconnection Agreement and the Generator Interconnection Agreement, including changes in output limits and Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities cost responsibilities.

**5.10 Interconnection Customer's Interconnection Facilities.** Interconnection Customer shall, at its expense, design, procure, construct, own or control, and install the ICIF, as set forth in Appendix A.

**5.10.1 Interconnection Customer's Interconnection Facility Specifications.**

Interconnection Customer shall submit initial design and specifications for the ICIF, including Interconnection Customer's System Protection Facilities, to Transmission Provider and Transmission Owner at least one hundred eighty (180) Calendar Days prior to the Initial Synchronization Date; and final design and specifications for review and comment at least ninety (90) Calendar Days prior to the Initial Synchronization Date. Transmission Provider at Transmission Provider's option, and Transmission Owner shall review such specifications to ensure that the ICIF are compatible with their respective technical specifications, operational control, and safety requirements and comment on such design and specifications within thirty (30) Calendar Days of Interconnection Customer's submission. All specifications provided hereunder shall be deemed confidential.

**5.10.2 Transmission Provider's and Transmission Owner's Review.** Transmission Provider's and Transmission Owner's review of Interconnection Customer's final specifications shall not be construed as confirming, endorsing, or providing a warranty as to the design, fitness, safety, durability or reliability of the Generating Facility, or the ICIF. Interconnection Customer shall make such changes to the ICIF as may reasonably be required by Transmission Provider and Transmission Owner, in accordance with Good Utility Practice, to ensure

that the ICIF are compatible with the technical specifications, operational control and safety requirements of Transmission Provider and Transmission Owner.

**5.10.3 ICIF Construction.** The ICIF shall be designed and constructed in accordance with Good Utility Practice. Within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Interconnection Customer shall deliver to Transmission Provider and Transmission Owner “as-built” drawings, information and documents for the ICIF, such as: a one-line diagram, a site plan showing the Generating Facility and the ICIF, plan and elevation drawings showing the layout of the ICIF, a relay functional diagram, relaying AC and DC schematic wiring diagrams and relay settings for all facilities associated with the Interconnection Customer’s step-up transformers, the facilities connecting the Generating Facility to the step-up transformers and the ICIF, and the impedances (determined by factory tests) for the associated step-up transformers and the Generating Facility. Interconnection Customer shall provide Transmission Provider and Transmission Owner with Interconnection Customer’s specifications for the excitation system, automatic voltage regulator, Generating Facility control and protection settings, transformer tap settings, and communications, if applicable.

**5.11 Transmission Owner’s Interconnection Facilities Construction.** The Transmission Owner’s Interconnection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Transmission Owner shall deliver to Transmission Provider (if requested) and Interconnection Customer the “as-built” drawings, information and documents for the Transmission Owner’s Interconnection Facilities specified in Appendix C to this GIA.

Such drawings, information and documents shall be deemed Confidential Information.

Upon completion, the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades shall be under the control of Transmission Provider or its designated representative.

**5.12 Access Rights.** Upon reasonable notice by a Party, and subject to any required or necessary regulatory approvals, a Party ("Granting Party") shall furnish *at no cost* to the other Party ("Access Party") any rights of use, licenses, rights of way and easements with respect to lands owned or controlled by the Granting Party, its agents (if allowed under the applicable agency agreement), or any Affiliate, that are necessary to enable the Access Party to obtain ingress and egress to construct, operate, maintain, repair, test (or witness testing), inspect, replace or remove facilities and equipment to: (i) interconnect the Generating Facility with the Transmission System; (ii) operate and maintain the Generating Facility, the Interconnection Facilities and the Transmission System; and (iii) disconnect or remove the Access Party's facilities and equipment upon termination of this GIA. In exercising such licenses, rights of way and easements, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business and shall adhere to the safety rules and procedures established in advance, as may be changed from time to time, by the Granting Party and provided to the Access Party.

**5.13 Lands of Other Property Owners.** If any part of the Transmission Owner's Interconnection Facilities, Network Upgrades, and/or Distribution Upgrades is to be installed on property owned by persons other than Interconnection Customer or Transmission Owner, Transmission Owner shall at Interconnection Customer's expense use efforts, similar in nature and extent to those that it typically undertakes on its own behalf or on behalf of its Affiliates, including use of its eminent domain authority to the extent permitted and consistent with Applicable Laws and Regulations and, to the extent

consistent with such Applicable Laws and Regulations, to procure from such persons any rights of use, licenses, rights of way and easements that are necessary to construct, operate, maintain, test, inspect, replace or remove the Transmission Owner's Interconnection Facilities, Network Upgrades and/or Distribution Upgrades upon such property.

**5.14 Permits.** Transmission Provider or Transmission Owner and Interconnection Customer shall cooperate with each other in good faith in obtaining all permits, licenses and authorizations that are necessary to accomplish the interconnection in compliance with Applicable Laws and Regulations. With respect to this paragraph, Transmission Owner shall provide permitting assistance to Interconnection Customer comparable to that provided to the Transmission Owner's own, or an Affiliate's, generation to the extent that Transmission Owner or its Affiliate owns generation.

**5.15 Early Construction of Base Case Facilities.** (Includes facilities required for all queued projects with interconnection agreements ).Interconnection Customer may request Transmission Owner to construct, and Transmission Owner shall construct, using Reasonable Efforts to accommodate Interconnection Customer's In-Service Date, all or any portion of any Network Upgrades, Transmission Owner's System Protection Facilities or Distribution Upgrades required for Interconnection Customer to be interconnected to the Transmission or Distribution System, as applicable, which are included in the Base Case of the Interconnection Facilities Study for Interconnection Customer, and which also are required to be constructed for another Interconnection Customer with a prior GIA, but where such construction is not scheduled to be completed in time to achieve Interconnection Customer's In-Service Date. Any such Network Upgrades, System Protection Facilities or Distribution Upgrades are included in the facilities to be constructed and as set forth in Appendix A to this GIA to the extent they are reasonably known.

**5.16 Suspension.**



**5.16.1 Interconnection Customer's Right to Suspend for Force Majeure Event;**

**Obligations.** Provided that such suspension is permissible under the authorizations, permits or approvals granted for the construction of such Interconnection Facilities, Network Upgrades or Stand Alone Network Upgrades, Interconnection Customer will not suspend unless a Force Majeure event occurs.

Interconnection Customer must provide written notice of its request for suspension to Transmission Provider and Transmission Owner, and provide a description of the Force Majeure event that is acceptable to Transmission Provider. Suspension will only apply to Interconnection Customer milestones and Interconnection Facilities described in the Appendices of this GIA. Prior to suspension, Interconnection Customer must also provide security acceptable to Transmission Owner, equivalent to the higher of \$5 million or the total cost of all Network Upgrades, Transmission Owner's System Protection Facilities, and Distribution Upgrades listed in Appendix A of this GIA. Network Upgrades and Transmission Owner's Interconnection Facilities will be constructed on the schedule described in the Appendices of this GIA unless: (1) construction is prevented by the order of a Governmental Authority; (2) the Network Upgrades are not needed by any other project; or (3) Transmission Owner or Transmission Provider determines that a Force Majeure event prevents construction. In the event of (1), (2), or (3) security shall be released upon the determination that the Network Upgrades will no longer be constructed.

If suspension occurs, the Transmission or Distribution System, as applicable, shall be left in a safe and reliable condition in accordance with Good Utility Practice and the Transmission Provider's and Transmission Owner's safety and reliability criteria. In such event, Interconnection Customer shall be responsible for all reasonable and necessary costs which Transmission Provider and Transmission Owner (i) have incurred pursuant to this GIA prior to the suspension and (ii) incur

in suspending such work, including any costs incurred to perform such work as may be necessary to ensure the safety of persons and property and the integrity of the Transmission or Distribution System, as applicable, during such suspension and, if applicable, any costs incurred in connection with the cancellation or suspension of material, equipment and labor contracts which Transmission Provider and Transmission Owner cannot reasonably avoid; provided, however, that prior to canceling or suspending any such material, equipment or labor contract, Transmission Provider and Transmission Owner shall obtain Interconnection Customer's authorization to do so.

Transmission Provider and Transmission Owner shall each invoice Interconnection Customer for such costs pursuant to Article 12 and shall use Reasonable Efforts to minimize its costs. In the event Interconnection Customer suspends work by Transmission Owner required under this GIA pursuant to this Article 5.16, and has not requested Transmission Owner to recommence the work required under this GIA on or before the expiration of three (3) years following commencement of such suspension, this GIA shall be deemed terminated. The three-year period shall begin on the date the suspension is requested, or the date of the written notice to Transmission Provider, if no effective date is specified.

**5.16.2 Effect of Missed Interconnection Customer Milestones.** If Interconnection Customer fails to provide notice of suspension pursuant to Article 5.16, and Interconnection Customer fails to fulfill or complete any Interconnection Customer Milestone provided in Appendix B ("Milestone"), this constitutes a Breach under this GIA. Depending upon the consequences of the Breach and effectiveness of the cure pursuant to Article 17, the Transmission Owner's Milestones may be revised, following consultation with Interconnection Customer, consistent with Reasonable Efforts, and in consideration of all relevant circumstances. Parties shall employ Reasonable Efforts to maintain their remaining respective Milestones.

**5.16.3 Effect of Suspension; Parties Obligations.** In the event that Interconnection Customer suspends work pursuant to this Article 5.16, no construction duration, timelines and schedules set forth in Appendix B shall be suspended during the period of suspension unless ordered by a Governmental Authority, with such order being the Force Majeure event causing the suspension. Should Interconnection Customer request that work be recommenced, Transmission Owner shall be obligated to proceed with Reasonable Efforts and in consideration of all relevant circumstances including regional outage schedules, construction availability and material procurement in performing the work as described in Appendix A and Appendix B. Transmission Owner will provide Interconnection Customer with a revised schedule for the design, procurement, construction, installation and testing of the Transmission Owner's Interconnection Facilities and Network Upgrades. Upon any suspension by Interconnection Customer pursuant to Article 5.16, Interconnection Customer shall be responsible for only those costs specified in this Article 5.16.

## **5.17 Taxes.**

**5.17.1 Interconnection Customer Payments Not Taxable.** The Parties intend that all payments or property transfers made by Interconnection Customer to Transmission Owner for the installation of the Transmission Owner's Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, Distribution Upgrades and Generator Upgrades shall be non-taxable, either as contributions to capital, or as an advance, in accordance with the Internal Revenue Code and any applicable state income tax laws and shall not be taxable as contributions in aid of construction or otherwise under the Internal Revenue Code and any applicable state income tax laws. To the extent that Transmission Owner is a limited liability company and not a corporation, and has elected to be taxed as a partnership, then the following shall apply: Transmission

Owner represents, and the Parties acknowledge, that Transmission Owner is a limited liability company and is treated as a partnership for federal income tax purposes. Any payment made by Interconnection Customer to Transmission Owner for Network Upgrades is to be treated as an upfront payment in accordance with Rev Proc 2005-35. It is anticipated by the parties that any amounts paid by Interconnection Customer to Transmission Owner for Network Upgrades will be reimbursed to Interconnection Customer in accordance with the terms of this GIA, provided Interconnection Customer fulfills its obligations under this GIA.

**5.17.2 Representations and Covenants.** In accordance with IRS Notice 2016-36, Interconnection Customer represents and covenants that (i) ownership of the electricity generated at the Generating Facility will pass to another party prior to the transmission of the electricity on the Transmission System, (ii) for income tax purposes, the amount of any payments and the cost of any property transferred to Transmission Owner for the Transmission Owner's Interconnection Facilities will be capitalized by Interconnection Customer as an intangible asset and recovered using the straight-line method over a useful life of twenty (20) years, and (iii) any portion of the Transmission Owner's Interconnection Facilities that is a "dual-use intertie," within the meaning of IRS Notice 2016-36, is reasonably expected to carry only a de minimis amount of electricity in the direction of the Generating Facility. For this purpose, "de minimis amount" means no more than 5 percent of the total power flows in both directions, calculated in accordance with the "5 percent test" set forth in IRS Notice 2016-36. This is not intended to be an exclusive list of the relevant conditions that must be met to conform to IRS requirements for non-taxable treatment.

At Transmission Owner's request, Interconnection Customer shall provide Transmission Owner with a report from an independent engineer confirming its

representation in clause (iii), above, with a copy to Transmission Provider.

Transmission Owner represents and covenants that the cost of the Transmission Owner's Interconnection Facilities paid for by Interconnection Customer will have no net effect on the base upon which rates are determined.

**5.17.3 Indemnification for the Cost Consequences of Current Tax Liability** Upon Transmission Owner. Notwithstanding Article 5.17.1 and to the extent permitted by law, Interconnection Customer shall protect, indemnify and hold harmless Transmission Owner from the cost consequences of any tax liability imposed against Transmission Owner as the result of payments or property transfers made by Interconnection Customer to Transmission Owner under this GIA for Interconnection Facilities, as well as any interest and penalties, other than interest and penalties attributable to any delay caused by Transmission Owner.

Transmission Owner shall not include a gross-up for the cost consequences of any current tax liability in the amounts it charges Interconnection Customer under this GIA unless (i) Transmission Owner has determined, in good faith, that the payments or property transfers made by Interconnection Customer to Transmission Owner should be reported as income subject to taxation or (ii) any Governmental Authority directs Transmission Owner to report payments or property as income subject to taxation; provided, however, that Transmission Owner may require Interconnection Customer to provide security for Interconnection Facilities, in a form reasonably acceptable to Transmission Owner (such as a parental guarantee or a letter of credit), in an amount equal to the cost consequences or any current tax liability under this Article 5.17.

Interconnection Customer shall reimburse Transmission Owner for such costs on a fully grossed-up basis, in accordance with Article 5.17.4, within thirty (30) Calendar Days of receiving written notification from Transmission Owner of the amount due, including detail about how the amount was calculated.

The indemnification obligation shall terminate at the earlier of (1) the expiration of the ten-year testing period and the applicable statute of limitation, as it may be extended by Transmission Owner upon request of the IRS, to keep these years open for audit or adjustment, or (2) the occurrence of a subsequent taxable event and the payment of any related indemnification obligations as contemplated by this Article 5.17.

**5.17.4 Tax Gross-Up Amount.** Interconnection Customer's liability for the cost consequences of any current tax liability under this Article 5.17 shall be calculated on a fully grossed-up basis. Except as may otherwise be agreed to by the parties, this means that Interconnection Customer will pay Transmission Owner, in addition to the amount paid for the Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, and/or Distribution Upgrades, an amount equal to (1) the current taxes imposed on Transmission Owner ("Current Taxes") on the excess of (a) the gross income realized by Transmission Owner as a result of payments or property transfers made by Interconnection Customer to Transmission Owner under this GIA (without regard to any payments under this Article 5.17) (the "Gross Income Amount") over (b) the present value of future tax deductions for depreciation that will be available as a result of such payments or property transfers (the "Present Value Depreciation Amount"), plus (2) an additional amount sufficient to permit Transmission Owner to receive and retain, after the payment of all Current Taxes, an amount equal to the net amount described in clause (1).

For this purpose, (i) Current Taxes shall be computed based on Transmission Owner's composite federal and state tax rates at the time the payments or property transfers are received and Transmission Owner will be treated as being subject to tax at the highest marginal rates in effect at that time (the "Current Tax Rate"), and (ii) the Present Value Depreciation Amount shall be computed

by discounting Transmission Owner's anticipated tax depreciation deductions as a result of such payments or property transfers by Transmission Owner's current weighted average cost of capital. Thus, the formula for calculating Interconnection Customer's liability to Transmission Owner pursuant to this Article 5.17.4 can be expressed as follows:  $(\text{Current Tax Rate} \times (\text{Gross Income Amount} - \text{Present Value of Tax Depreciation})) / (1 - \text{Current Tax Rate})$ . Interconnection Customer's estimated tax liability in the event taxes are imposed shall be stated in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.

**5.17.5 Private Letter Ruling or Change or Clarification of Law.** At Interconnection Customer's request and expense, Transmission Owner shall file with the IRS a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by Interconnection Customer to Transmission Owner under this GIA are subject to federal income taxation. Interconnection Customer will prepare the initial draft of the request for a private letter ruling, and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of Interconnection Customer's knowledge. Transmission Owner and Interconnection Customer shall cooperate in good faith with respect to the submission of such request.

Transmission Owner shall keep Interconnection Customer fully informed of the status of such request for a private letter ruling and shall execute either a privacy act waiver or a limited power of attorney, in a form acceptable to the IRS, that authorizes Interconnection Customer to participate in all discussions with the IRS regarding such request for a private letter ruling. Transmission Owner shall allow Interconnection Customer to attend all meetings with IRS officials about the request and shall permit Interconnection Customer to prepare the initial drafts of any follow-up letters in connection with the request.

**5.17.6 Subsequent Taxable Events.** If, within 10 years from the date on which the relevant Transmission Owner's Interconnection Facilities are placed in service, (i) Interconnection Customer breaches the covenant contained in Article 5.17.2, (ii) a "disqualification event" occurs within the meaning of IRS Notice 88-129, or (iii) this GIA terminates and Transmission Owner retains ownership of the Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, and/or Distribution Upgrades, Interconnection Customer shall pay a tax gross-up for the cost consequences of any current tax liability imposed on Transmission Owner, calculated using the methodology described in Article 5.17.4 and in accordance with IRS Notice 90-60.

**5.17.7 Contests.** In the event any Governmental Authority determines that Transmission Owner's receipt of payments or property constitutes income that is subject to taxation, Transmission Owner shall notify Interconnection Customer, in writing, within thirty (30) Calendar Days of receiving notification of such determination by a Governmental Authority. Upon the timely written request by Interconnection Customer and at Interconnection Customer's sole expense, Transmission Owner may appeal, protest, seek abatement of, or otherwise oppose such determination. Upon Interconnection Customer's written request and sole expense, Transmission Owner shall file a claim for refund with respect to any taxes paid under this Article 5.17, whether or not it has received such a determination. Transmission Owner reserves the right to make all decisions with regard to the prosecution of such appeal, protest, abatement or other contest, including the selection of counsel and compromise or settlement of the claim, but Transmission Owner shall keep Interconnection Customer informed, shall consider in good faith suggestions from Interconnection Customer about the conduct of the contest, and shall reasonably permit Interconnection Customer or an Interconnection Customer representative to attend contest proceedings.



Interconnection Customer shall pay to Transmission Owner on a periodic basis, as invoiced by Transmission Owner, Transmission Owner's documented reasonable costs of prosecuting such appeal, protest, abatement or other contest. At any time during the contest, Transmission Owner may agree to a settlement either with Interconnection Customer's consent or after obtaining written advice from nationally-recognized tax counsel, selected by Transmission Owner, but reasonably acceptable to Interconnection Customer, that the proposed settlement represents a reasonable settlement given the hazards of litigation.

Interconnection Customer's obligation shall be based on the amount of the settlement agreed to by Interconnection Customer, or if a higher amount, so much of the settlement that is supported by the written advice from nationally-recognized tax counsel selected under the terms of the preceding sentence. The settlement amount shall be calculated on a fully grossed-up basis to cover any related cost consequences of the current tax liability. Any settlement without Interconnection Customer's consent or such written advice will relieve Interconnection Customer from any obligation to indemnify Transmission Owner for the tax at issue in the contest.

**5.17.8 Refund.** In the event that (a) a private letter ruling is issued to Transmission Owner which holds that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Owner under the terms of this GIA is not subject to federal income taxation, (b) any legislative change or administrative announcement, notice, ruling or other determination makes it reasonably clear to Transmission Owner in good faith that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Owner under the terms of this GIA is not taxable to Transmission Owner, (c) any abatement, appeal, protest, or other contest results in a determination that any payments or transfers made by Interconnection Customer to Transmission Owner are not subject to federal income tax, or (d) if Transmission Owner receives a refund from any taxing authority for any

overpayment of tax attributable to any payment or property transfer made by Interconnection Customer to Transmission Owner pursuant to this GIA, Transmission Owner shall promptly refund to Interconnection Customer the following:

any payment made by Interconnection Customer under this Article 5.17 for taxes that is attributable to the amount determined to be non-taxable, together with interest thereon,

(ii) interest on any amounts paid by Interconnection Customer to Transmission Owner for such taxes which Transmission Owner did not submit to the taxing authority, calculated in accordance with the methodology set forth in 18 C.F.R. Section 35.19a(a)(2)(iii) from the date payment was made by Interconnection Customer to the date Transmission Owner refunds such payment to Interconnection Customer, and

(iii) with respect to any such taxes paid by Transmission Owner, any refund or credit Transmission Owner receives or to which it may be entitled from any Governmental Authority, interest (or that portion thereof attributable to the payment described in clause (i), above) owed to Transmission Owner for such overpayment of taxes (including any reduction in interest otherwise payable by Transmission Owner to any Governmental Authority resulting from an offset or credit); provided, however, that Transmission Owner will remit such amount promptly to Interconnection Customer only after and to the extent that Transmission Owner has received a tax refund, credit or offset from any Governmental Authority for any applicable overpayment of income tax related to the Transmission Owner's Interconnection Facilities.

The intent of this provision is to leave both parties, to the extent

practicable, in the event that no taxes are due with respect to any payment for Interconnection Facilities and Network Upgrades hereunder, in the same position they would have been in had no such tax payments been made.

**5.17.9 Taxes Other Than Income Taxes.** Upon the timely request by Interconnection Customer, and at Interconnection Customer's sole expense, Transmission Owner shall appeal, protest, seek abatement of, or otherwise contest any tax (other than federal or state income tax) asserted or assessed against Transmission Owner for which Interconnection Customer may be required to reimburse Transmission Owner under the terms of this GIA. Interconnection Customer shall pay to Transmission Owner on a periodic basis, as invoiced by Transmission Owner, Transmission Owner's documented reasonable costs of prosecuting such appeal, protest, abatement, or other contest. Interconnection Customer and Transmission Owner shall cooperate in good faith with respect to any such contest. Unless the payment of such taxes is a prerequisite to an appeal or abatement or cannot be deferred, no amount shall be payable by Interconnection Customer to Transmission Owner for such taxes until they are assessed by a final, non-appealable order by any court or agency of competent jurisdiction. In the event that a tax payment is withheld and ultimately due and payable after appeal, Interconnection Customer will be responsible for all taxes, interest and penalties, other than penalties attributable to any delay caused by Transmission Owner.

**5.18 Tax Status.** Each Party shall cooperate with the other Parties to maintain each Party's tax status. Nothing in this GIA is intended to adversely affect any Party's tax-exempt status with respect to the issuance of bonds including, but not limited to, Local Furnishing Bonds.

**5.19 Modification.**

**5.19.1 General.** Either Party may undertake modifications to its facilities. If a Party plans to undertake a modification that reasonably may be expected to affect another Party's facilities, that Party shall provide to the other Parties sufficient information regarding such modification so that the other Parties may evaluate the potential impact of such modification prior to commencement of the work. Such information shall be deemed to be Confidential Information hereunder and shall include information concerning the timing of such modifications and whether such modifications are expected to interrupt the flow of electricity from the Generating Facility. The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Parties at least ninety (90) Calendar Days in advance of the commencement of the work or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld, conditioned or delayed.

In the case of Generating Facility modifications that do not require Interconnection Customer to submit an Interconnection Request, Transmission Provider shall provide, within thirty (30) Calendar Days (or such other time as the Parties may agree), an estimate of any additional modifications to the Transmission or Distribution System as applicable, Transmission Owner's Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, and/or Distribution Upgrades necessitated by such Interconnection Customer modification and a good faith estimate of the costs thereof which shall be the responsibility of Interconnection Customer.

**5.19.2 Standards.** Any additions, modifications, or replacements made to a Party's facilities shall be designed, constructed and operated in accordance with this GIA and Good Utility Practice.

**5.19.3 Modification Costs.** Interconnection Customer shall not be directly assigned

the costs of any additions, modifications, or replacements that Transmission Owner makes to the Transmission Owner's Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities, Distribution Upgrades, or the Transmission or Distribution System, as applicable, to facilitate the interconnection of a third party to the Transmission Owner's Interconnection Facilities or the Transmission or Distribution System, as applicable, or to provide transmission service to a third party under the Tariff. Interconnection Customer shall be responsible for the costs of any additions, modifications, or replacements to the Interconnection Customer's Interconnection Facilities that may be necessary to maintain or upgrade such Interconnection Customer's Interconnection Facilities consistent with Applicable Laws and Regulations, Applicable Reliability Standards or Good Utility Practice.

## **ARTICLE 6. TESTING AND INSPECTION**

- 6.1 Pre-Commercial Operation Date Testing and Modifications.** Prior to the Commercial Operation Date, Transmission Owner shall test the Transmission Owner's Interconnection Facilities, Network Upgrades, Transmission Owner's System Protection Facilities and Distribution Upgrades, and Interconnection Customer shall test each electric production device at the Generating Facility, Interconnection Customer's System Protection Facilities, including control equipment to limit injection at the POI to the level of Interconnection Service set forth in Appendix A and the Interconnection Customer's Interconnection Facilities to ensure their safe and reliable operation. Similar testing may be required after initial operation. Transmission Owner and Interconnection Customer shall make any modifications to their respective facilities that are found to be necessary as a result of such testing. Interconnection Customer shall bear the cost of all such testing and modifications. Interconnection Customer shall generate test energy at the Generating Facility only if it has arranged for the delivery of such test energy.

- 6.2 Post-Commercial Operation Date Testing and Modifications.** Each Party shall at its own expense perform routine inspection and testing of its facilities and equipment in accordance with Good Utility Practice as may be necessary to ensure the continued interconnection of the Generating Facility with the Transmission or Distribution System, as applicable, in a safe and reliable manner. Each Party shall have the right, upon advance written notice, to require reasonable additional testing of the Interconnection Facilities, at the requesting Party's expense, as may be in accordance with Good Utility Practice.
- 6.3 Right to Observe Testing.** Each Party shall notify the other Parties in advance of its performance of tests of its Interconnection Facilities. The other Parties shall each have the right, at its own expense, to observe such testing.
- 6.4 Right to Inspect.** Each Party shall have the right, but shall have no obligation to:
- (i) observe Transmission Owner's and Interconnection Customer's tests and/or inspection of any of their respective System Protection Facilities and other protective equipment, including power system stabilizers and control equipment; (ii) review the settings of the System Protection Facilities and other protective equipment; and (iii) review the maintenance records relative to the Interconnection Facilities, the System Protection Facilities and other protective equipment. A Party may exercise these rights from time to time as it deems necessary upon reasonable notice to the other Parties. The exercise or non-exercise by a Party of any such rights shall not be construed as an endorsement or confirmation of any element or condition of the Interconnection Facilities or the System Protection Facilities or other protective equipment or the operation thereof, or as a warranty as to the fitness, safety, desirability, or reliability of same. Any information that a Party obtains through the exercise of any of its rights under this Article 6.4 shall be deemed to be Confidential Information and treated pursuant to Article 22 of this GIA.

## ARTICLE 7. METERING

**7.1 General.** Each Party shall comply with the Applicable Reliability Council requirements.

Unless the Interconnection Customer is utilizing shared Interconnection Customer Interconnection Facilities, or unless otherwise agreed by the Parties, Transmission Owner, at its election, or otherwise Interconnection Customer, shall install Metering Equipment (the “Metering Party”) at the Point of Interconnection prior to any operation of the Generating Facility. Transmission Owner, at its election, or otherwise Interconnection Customer shall own, operate, test and maintain such Metering Equipment. Power flows to and from the Generating Facility shall be measured at or, at the Metering Party’s option, compensated to, the Point of Interconnection. If Interconnection Customer will share Interconnection Facilities with any other projects, Interconnection Customer shall install Metering Equipment either on its own Generating Facility or its own non-shared facilities sufficient to measure the output of such Interconnection Customer’s Generating Facility separately from any other Generating Facilities with which it will share Interconnection Facilities. The Metering Party shall provide metering quantities, in analog and/or digital form, to the other Parties upon request. Interconnection Customer shall bear all reasonable documented costs associated with the purchase, installation, operation, testing and maintenance of the Metering Equipment.

**7.2 Check Meters.** Interconnection Customer, at its option and expense, may install and operate, on its premises and on its side of the Point of Interconnection, one or more check meters to check the Metering Equipment owned by the Metering Party. Such check meters shall be for check purposes only and shall not be used for the measurement of power flows for purposes of this GIA, except as provided in Article 7.4 below. The check meters shall be subject at all reasonable times to inspection and examination by Transmission Provider, Transmission Owner or their designees. The installation, operation and maintenance thereof shall be performed entirely by Interconnection Customer in accordance with Good Utility Practice.

**7.3 Standards.** The Metering Party shall install, calibrate, and test revenue quality Metering

Equipment in accordance with applicable ANSI standards.

**7.4 Testing of Metering Equipment.** The Metering Party shall inspect and test Metering Equipment upon installation and at least once every two (2) years thereafter. If requested to do so by a Party, the Metering Party shall, at the requesting Party's expense, inspect or test Metering Equipment more frequently than every two (2) years. The Metering Party shall give reasonable notice to the other Parties of the time when any inspection or test shall take place, and the other Parties may have representatives present at the test or inspection. If at any time Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at Interconnection Customer's expense, in order to provide accurate metering, unless the inaccuracy or defect is due to the Metering Party's failure to maintain, then the Metering Party shall pay. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than two percent (2%) from the measurement made by the standard meter used in the test, the Metering Party shall adjust the measurements by correcting all measurements for the period during which Metering Equipment was in error by using Interconnection Customer's check meters, if installed. If no such check meters are installed or if the period cannot be reasonably ascertained, the adjustment shall be for the period immediately preceding the test of the Metering Equipment equal to one-half the time from the date of the previous test of the Metering Equipment.

**7.5 Metering Data.** At Interconnection Customer's expense, the metered data shall be telemetered to one or more locations designated by Transmission Provider and Transmission Owner and one or more locations designated by Interconnection Customer. Such telemetered data shall be used, under normal operating conditions, as the official measurement of the amount of energy delivered from the Generating Facility to the Point of Interconnection.

## **ARTICLE 8. COMMUNICATIONS**



**8.1 Interconnection Customer Obligations.** Interconnection Customer shall maintain satisfactory operating communications with Transmission Provider's Transmission System dispatcher or representative designated by Transmission Provider. Interconnection Customer shall provide standard voice line, dedicated voice line and facsimile communications at its Generating Facility control room or central dispatch facility through use of either the public telephone system, or a voice communications system that does not rely on the public telephone system. Interconnection Customer shall also provide the dedicated data circuit(s) necessary to provide Interconnection Customer data to Transmission Provider as set forth in Appendix D, Security Arrangements Details. The data circuit(s) shall extend from the Generating Facility to the location(s) specified by Transmission Provider. Any required maintenance of such communications equipment shall be performed by and at the cost of Interconnection Customer. Operational communications shall be activated and maintained under, but not be limited to, the following events: system paralleling or separation, scheduled and unscheduled shutdowns, equipment clearances, and hourly and daily load data.

Unless the Generating Facility is an Intermittent Resource not relying on wind or solar as a fuel source, Interconnection Customer shall install communication and control equipment such that the Generating Facility can receive and respond to the appropriate dispatch signals while operating under the Tariff. Where applicable, the requirements of the communication and control equipment will be enumerated in Appendix C to this GIA.

**8.2 Remote Terminal Unit (RTU).** Prior to the Initial Synchronization Date of the Generating Facility, a remote terminal unit, or equivalent data collection and transfer equipment acceptable to both Parties, shall be installed by Interconnection Customer, or by Transmission Owner at Interconnection Customer's expense, to gather accumulated and instantaneous data to be telemetered to the location(s) designated by Transmission Owner and Transmission Provider through use of a dedicated point-to-point data circuit(s) as indicated in Article 8.1. The communication protocol for the data circuit(s) shall be specified by Transmission Owner and Transmission Provider. Instantaneous bi-

directional analog real power and reactive power flow information must be telemetered directly to the location(s) specified by Transmission Provider and Transmission Owner.

Each Party will promptly advise the other Parties if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction. The Party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

**8.3 No Annexation.** Any and all equipment placed on the premises of a Party shall be and remain the property of the Party providing such equipment regardless of the mode and manner of annexation or attachment to real property, unless otherwise mutually agreed by the Parties.

**8.4 Provision of Data from a Variable Energy Resource.** The Interconnection Customer whose Generating Facility is a Variable Energy Resource shall provide meteorological and forced outage data to the Transmission Provider to the extent necessary for the Transmission Provider's development and deployment of power production forecasts for that class of Variable Energy Resources. The Interconnection Customer with a Variable Energy Resource having wind as the energy source will, upon request by the Transmission Provider, be required to provide the Transmission Provider with site-specific meteorological data including: temperature, wind speed, wind direction, and atmospheric pressure. The Interconnection Customer with a Variable Energy Resource having solar as the energy source will, upon request by the Transmission Provider, be required to provide the Transmission Provider with site-specific meteorological data including: temperature, atmospheric pressure, and irradiance. The Transmission Provider and Interconnection Customer whose Generating Facility is a Variable Energy Resource shall mutually agree to any additional meteorological data that are required for the development and deployment of a power production forecast. The Interconnection Customer whose Generating Facility is a Variable Energy Resource also shall submit data to the Transmission Provider regarding all forced outages to the extent necessary for the

Transmission Provider's development and deployment of power production forecasts for that class of Variable Energy Resources. The exact specifications of the meteorological and forced outage data to be provided by the Interconnection Customer to the Transmission Provider, including the frequency and timing of data submittals, shall be made taking into account the size and configuration of the Variable Energy Resource, its characteristics, location, and its importance in maintaining generation resource adequacy and transmission system reliability in its area. All requirements for meteorological and forced outage data must be commensurate with the power production forecasting employed by the Transmission Provider. Data requirements for meteorological and forced outage data will be negotiated by the Transmission Provider and the Interconnection Customer, and will be set forth in Appendix C, Interconnection Details, of this GIA.

## **ARTICLE 9. OPERATIONS**

- 9.1 General.** Each Party shall comply with the Applicable Reliability Council requirements. Each Party shall provide to any Party all information that may reasonably be required by that Party to comply with Applicable Laws and Regulations and Applicable Reliability Standards.
- 9.2 Local Balancing Authority Notification.** At least three (3) months before Initial Synchronization Date, Interconnection Customer shall notify Transmission Provider and Transmission Owner in writing of the Local Balancing Authority in which the Generating Facility will be located. If Interconnection Customer elects to locate the Generating Facility through dynamic metering/scheduling in a Local Balancing Authority other than the Local Balancing Authority in which the Generating Facility is physically located, and if permitted to do so by the relevant transmission tariffs, all necessary arrangements, including but not limited to those set forth in Article 7 and Article 8 of this GIA, and remote Local Balancing Authority generator interchange agreements, if applicable, and the appropriate measures under such agreements, shall be executed and implemented

prior to the placement of the Generating Facility in the other Local Balancing Authority.

**9.3 Transmission Provider and Transmission Owner Obligations.** Transmission Provider shall cause the Transmission System and the Transmission Owner's Interconnection Facilities to be operated, maintained and controlled in a safe and reliable manner in accordance with this GIA. Transmission Provider, or its designee, may provide operating instructions to Interconnection Customer consistent with this GIA and the Tariff and, if applicable, Transmission Owner's operating protocols and procedures as they may change from time to time. Transmission Provider will consider changes to its operating protocols and procedures proposed by Interconnection Customer.

**9.4 Interconnection Customer Obligations.** Interconnection Customer shall at its own expense operate, maintain and control the Generating Facility and the Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this GIA. The Generating Facility must be operated in accordance with the operating limits, if any, in the Interconnection Facilities Study and specified in Appendix C of this GIA. Interconnection Customer shall operate the Generating Facility and the Interconnection Customer's Interconnection Facilities in accordance with all applicable requirements of Transmission Provider or its designated Local Balancing Authority Operator of which the Generating Facility is part, as such requirements are set forth in Appendix C, Interconnection Details, of this GIA. Appendix C, Interconnection Details, will be modified to reflect changes to the requirements as they may change from time to time. Any Party may request that a Party provide copies of the requirements set forth in Appendix C, Interconnection Details, of this GIA.

**9.5 Start-Up and Synchronization.** Consistent with the Parties' mutually acceptable procedures, Interconnection Customer is responsible for the proper synchronization of the Generating Facility to the Transmission or Distribution System, as applicable.

**9.6 Reactive Power and Primary Frequency Response.**

## **9.6.1 Power Factor Design Criteria.**

**9.6.1.1 Synchronous Generation.** Interconnection Customer shall design the Generating Facility to be capable of maintaining a composite power delivery at continuous rated power output at the Point of Interconnection at all power factors over 0.95 leading to 0.95 lagging, unless the Transmission Provider has established different requirements that apply to all synchronous generators in the Local Balancing Authority on a comparable basis. The applicable Local Balancing Authority power factor requirements are listed on the Transmission Provider's website at

[https://cdn.misoenergy.org/Reactive\\_Generator\\_Requirements108137.pdf](https://cdn.misoenergy.org/Reactive_Generator_Requirements108137.pdf)

and may be referenced in the Appendices to this GIA. The Generating Facility shall be capable of continuous dynamic operation throughout the power factor design range as measured at the Point of Interconnection. Such operation shall account for the net effect of all energy production devices on the Interconnection Customer's side of the Point of Interconnection.

**9.6.1.2 Inverter-Based Resource Plants.** Interconnection Customer shall design the Generating Facility to be capable of maintaining a composite power delivery at continuous rated power output at the high-side of the generator substation at all power factors over 0.95 leading to 0.95 lagging, unless the Transmission Provider has established different requirements that apply to all inverter-based resource plants in the Local Balancing Authority on a comparable basis. The applicable Local Balancing Authority power factor requirements are listed on the Transmission Provider's website at

[https://cdn.misoenergy.org/Reactive\\_Generator\\_Requirements108137.pdf](https://cdn.misoenergy.org/Reactive_Generator_Requirements108137.pdf)

and may be referenced in the Appendices to this GIA. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two. This requirement shall only apply to newly interconnecting inverter-based resource plants that have not yet completed a System Impact Study as of the effective date of the Final Rule establishing this requirement (Order No. 827). These requirements apply to existing inverter-based resource plants making upgrades that require a new Generator Interconnection Agreement only where the Transmission Provider's System Impact Study shows the need for reactive power as a result of an upgrade. If applicable, these requirements will be memorialized in Appendix C to this GIA.

Additional reactive power requirements for inverter-based resource plants are provided in Appendix G of this GIA.

**9.6.2 Voltage Schedules.** Once Interconnection Customer has synchronized the Generating Facility with the Transmission System, Transmission Provider shall require Interconnection Customer to operate the Generating Facility to produce or absorb reactive power within the design limitations of the Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria), to maintain the output voltage or power factor at the Point of Interconnection as specified by Transmission Provider. Transmission Provider's voltage schedules shall treat all sources of reactive power in the Local Balancing Authority in an equitable and not unduly discriminatory manner. Transmission Provider shall exercise Reasonable Efforts to provide Interconnection Customer with such schedules at least one (1) Calendar Day in advance, and may make changes to such schedules as necessary to maintain the reliability of the Transmission or Distribution System

as applicable. Interconnection Customer shall operate the Generating Facility to maintain the specified output voltage or power factor at the Point of Interconnection within the design limitations of the Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). If Interconnection Customer is unable to maintain the specified voltage or power factor, it shall promptly notify Transmission Provider's system operator, or its designated representative.

**9.6.2.1 Voltage Regulators.** Whenever the Generating Facility is operated in parallel with the Transmission or Distribution System as applicable and voltage regulators are capable of operation, Interconnection Customer shall operate the Generating Facility with its speed governors and voltage regulators in automatic operation. If the Generating Facility's voltage regulators are not capable of such automatic operation, Interconnection Customer shall immediately notify Transmission Provider's system operator, or its designated representative, and ensure that such Generating Facility's reactive power production or absorption (measured in MVARs) are within the design capability of the Generating Facility's generating unit(s) and steady state stability limits. Interconnection Customer shall not cause its Generating Facility to disconnect automatically or instantaneously from the Transmission or Distribution System, as applicable, or trip any generating unit comprising the Generating Facility for an under or over frequency condition unless the abnormal frequency condition persists for a time period beyond the limits set forth in ANSI/IEEE Standard C37.106, or such other standard as applied to other generators in the Local Balancing Authority on a comparable basis.

**9.6.3 Payment for Reactive Power.** Payments for reactive power shall be pursuant to any tariff or rate schedule filed by Transmission Provider and approved by the FERC.

**9.6.4 Primary Frequency Response.** This Section 9.6.4 shall only apply in the event that the Interconnection Request for the Generating Facility completed Definitive Planning Phase Interconnection Customer Decision Point 2 after May 15, 2018.

Interconnection Customer shall ensure the primary frequency response capability of its Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term “functioning governor or equivalent controls” as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Generating Facility’s real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and  $\pm 0.036$  Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based on an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Generating Facility’s real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Generating Facility’s real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or



(2) in accordance with an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. Interconnection Customer shall notify Transmission Provider that the primary frequency response capability of the Generating Facility has been tested and confirmed during commissioning. Once Interconnection Customer has synchronized the Generating Facility with the Transmission System, Interconnection Customer shall operate the Generating Facility consistent with the provisions specified in Sections 9.6.4.1 and 9.6.4.2 of this GIA. The primary frequency response requirements contained herein shall apply to both synchronous and inverter-based resource plant Generating Facilities.

**9.6.4.1 Governor or Equivalent Controls.** Whenever the Generating Facility is operated in parallel with the Transmission System, Interconnection Customer shall operate the Generating Facility with its governor or equivalent controls in service and responsive to frequency. Interconnection Customer shall: (1) in coordination with Transmission Provider and/or the relevant balancing authority, set the deadband parameter to: (a) a maximum of  $\pm 0.036$  Hz and set the droop parameter to a maximum of 5 percent; or (b) implement the relevant droop and deadband settings from an approved NERC Reliability Standard that provides for equivalent or more stringent parameters. Interconnection Customer shall be required to provide the status and settings of the governor or equivalent controls to Transmission Provider and/or the relevant balancing authority upon request. If Interconnection Customer needs to operate the Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify Transmission Provider and the relevant balancing authority, and provide both with the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a

reasonable estimate of when the governor or equivalent controls will be returned to service. Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Interconnection Customer shall make Reasonable Efforts to keep outages of the Generating Facility's governor or equivalent controls to a minimum whenever the Generating Facility is operated in parallel with the Transmission System.

**9.6.4.2 Timely and Sustained Response.** Interconnection Customer shall ensure that the Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Generating Facility has operating capability in the direction needed to correct the frequency deviation. Interconnection Customer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

**9.6.4.3 Exemptions.** Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from Sections 9.6.4, 9.6.4.1, and 9.6.4.2 of this GIA. Generating Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the

generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in Section 9.6.4, but shall be otherwise exempt from the operating requirements in Sections 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.4 of this GIA.

**9.6.4.4 Electric Storage Resources.** Interconnection Customer interconnecting an electric storage resource shall establish an operating range in Appendix C that specifies a minimum state of charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in Sections 9.6.4, 9.6.4.1, 9.6.4.2 and 9.6.4.3 of this GIA. Appendix C shall specify whether the operating range is static or dynamic, and shall consider (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the electric storage resource; (5) operational limitations of the electric storage resource due to manufacturer specifications; and (6) any other relevant factors agreed to by Transmission Provider and Interconnection Customer, and in consultation with the relevant transmission owner or balancing authority as appropriate. If the operating range is dynamic, then Appendix C must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is required to

provide timely and sustained primary frequency response consistent with Section 9.6.4.2 of this GIA when it is online and dispatched to inject electricity to the Transmission System and/or receive electricity from the Transmission System. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to the Transmission System and/or dispatched to receive electricity from the Transmission System.

**9.6.4.5 Inverter-Based Resource Plants.** Additional primary frequency response requirements for inverter-based resource plants, including electric storage resources, are provided in Appendix G of this GIA.

## **9.7 Outages and Interruptions.**

### **9.7.1 Outages.**

**9.7.1.1 Outage Authority and Coordination.** Interconnection Customer and Transmission Owner may each in accordance with Good Utility Practice in coordination with the other Party and Transmission Provider remove from service any of its respective Interconnection Facilities, System Protection Facilities, Network Upgrades, System Protection Facilities or Distribution Upgrades that may impact the other Party's facilities as necessary to perform maintenance or testing or to install or replace equipment. Absent an Emergency Condition, the Party scheduling a removal of such facility(ies) from service will use Reasonable Efforts to notify one another and schedule such removal on a date and time mutually acceptable to the Parties. In all circumstances, any Party planning to remove such facility(ies) from service shall use Reasonable Efforts to minimize the effect on the other Parties of such removal.

**9.7.1.2 Outage Schedules.** Transmission Provider shall post scheduled outages of transmission facilities on the OASIS. Interconnection Customer shall submit its planned maintenance schedules for the Generating Facility to Transmission Provider and Transmission Owner for a minimum of a rolling twenty-four (24) month period in accordance with the Transmission Provider's procedures. Interconnection Customer shall update its planned maintenance schedules as necessary. Transmission Provider may request Interconnection Customer to reschedule its maintenance as necessary to maintain the reliability of the Transmission System; provided, however, adequacy of generation supply shall not be a criterion in determining Transmission System reliability.

Transmission Provider shall compensate, pursuant to applicable Transmission Provider tariff or rate schedule, Interconnection Customer for any additional direct costs that Interconnection Customer incurs as a result of having to reschedule maintenance, including any additional overtime, breaking of maintenance contracts or other costs above and beyond the cost Interconnection Customer would have incurred absent the Transmission Provider's request to reschedule maintenance.

Interconnection Customer will not be eligible to receive compensation, if during the twelve (12) months prior to the date of the scheduled maintenance, Interconnection Customer had modified its schedule of maintenance activities.

Costs shall be determined by negotiation between Transmission Provider and Interconnection Customer prior to implementation of the voluntary change in outage schedules, or if such request is made by or on behalf of a Transmission Customer requesting firm service, costs and recovery of costs shall be determined through a bilateral agreement between the Transmission Customer and Interconnection Customer. Voluntary

changes to outage schedules under this Article 9.7.1.2 are separate from actions and compensation required under Article 13 and for which costs are recovered in accordance with Transmission Provider's applicable tariff or rate schedule.

**9.7.1.3 Outage Restoration.** If an outage on either the Interconnection Customer's or Transmission Owner's Interconnection Facilities, Network Upgrades, System Protection Facilities or Distribution Upgrades adversely affects a Party's operations or facilities, the Party that owns or controls the facility that is out of service shall use Reasonable Efforts to promptly restore such facility(ies) to a normal operating condition consistent with the nature of the outage. The Party that owns or controls the facility that is out of service shall provide the other Parties, to the extent such information is known, information on the nature of the Emergency Condition, an estimated time of restoration, and any corrective actions required. Initial verbal notice shall be followed up as soon as practicable with written notice to the other Parties explaining the nature of the outage.

**9.7.2 Interruption of Service.** If required by Good Utility Practice to do so, Transmission Provider may require Interconnection Customer to interrupt or reduce deliveries of electricity if such delivery of electricity could adversely affect Transmission Provider's ability to perform such activities as are necessary to safely and reliably operate and maintain the Transmission System. The following provisions shall apply to any interruption or reduction permitted under this Article 9.7.2:

**9.7.2.1** The interruption or reduction shall continue only for so long as reasonably necessary under Good Utility Practice;

- 9.7.2.2** Any such interruption or reduction shall be made on an equitable, non-discriminatory basis with respect to all generating facilities directly connected to the Transmission or Distribution System, as applicable;
- 9.7.2.3** When the interruption or reduction must be made under circumstances which do not allow for advance notice, Transmission Provider shall notify Interconnection Customer by telephone as soon as practicable of the reasons for the curtailment, interruption, or reduction, and, if known, its expected duration. Telephone notification shall be followed by written notification as soon as practicable;
- 9.7.2.4** Except during the existence of an Emergency Condition, when the interruption or reduction can be scheduled without advance notice, Transmission Provider shall notify Interconnection Customer in advance regarding the timing of such scheduling and further notify Interconnection Customer of the expected duration. Transmission Provider shall coordinate with Interconnection Customer using Good Utility Practice to schedule the interruption or reduction during periods of least impact to Interconnection Customer, Transmission Owner and Transmission Provider;
- 9.7.2.5** The Parties shall cooperate and coordinate with each other to the extent necessary in order to restore the Generating Facility, Interconnection Facilities, and the Transmission or Distribution System, as applicable to their normal operating state, consistent with system conditions and Good Utility Practice.
- 9.7.3** Under-Frequency, Over-Frequency, Under-Voltage, and Over-Voltage Conditions. The Transmission System is designed to automatically activate a load-shed program as required by the Applicable Reliability Council in the event

of an under-frequency or under-voltage system disturbance. Interconnection Customer shall implement under-frequency, over-frequency, under-voltage, and over-voltage relay set points for the Generating Facility as required by the Applicable Reliability Council to ensure “ride through” capability of the Transmission System. Generating Facility response to frequency and/or voltage deviations of pre-determined magnitudes, including under-frequency, over-frequency, under-voltage, and over-voltage, shall be studied and coordinated with Transmission Provider in accordance with Good Utility Practice. The term “ride through” as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the Transmission System during system disturbances within a range of under-frequency, over-frequency, under-voltage, and over-voltage conditions, in accordance with Good Utility Practice.

#### **9.7.4 System Protection and Other Control Requirements.**

**9.7.4.1** System Protection Facilities. Interconnection Customer shall, at its expense, install, operate and maintain its System Protection Facilities as a part of the Generating Facility or the Interconnection Customer’s Interconnection Facilities. Transmission Owner shall install at Interconnection Customer’s expense any Transmission Owner’s System Protection Facilities that may be required on the Transmission Owner’s Interconnection Facilities or the Transmission Owner’s transmission or distribution facilities as a result of the interconnection of the Generating Facility and the Interconnection Customer’s Interconnection Facilities.

**9.7.4.2** Interconnection Customer’s and Transmission Owner’s System Protection Facilities shall be designed and coordinated with Affected Systems in accordance with Good Utility Practice.

**9.7.4.3** Each Party shall be responsible for protection of its facilities consistent



with Good Utility Practice.

**9.7.4.4** Each Party's protective relay design shall incorporate the necessary test switches to perform the tests required in Article 6. The required test switches will be placed such that they allow operation of lockout relays while preventing breaker failure schemes from operating and causing unnecessary breaker operations and/or the tripping of the Generating Facility.

**9.7.4.5** Each Party will test, operate and maintain their respective System Protection Facilities in accordance with Good Utility Practice.

**9.7.4.6** Prior to the In-Service Date, and again prior to the Commercial Operation Date, Interconnection Customer or Transmission Owner, or their respective agents, shall perform a complete calibration test and functional trip test of the System Protection Facilities. At intervals suggested by Good Utility Practice and following any apparent malfunction of the System Protection Facilities, Interconnection Customer or Transmission Owner shall each perform both calibration and functional trip tests of their respective System Protection Facilities. These tests do not require the tripping of any in-service generating unit. These tests do, however, require that all protective relays and lockout contacts be activated.

**9.7.5 Requirements for Protection.** In compliance with Good Utility Practice, Interconnection Customer shall provide, install, own, and maintain relays, circuit breakers and all other devices necessary to remove any fault contribution of the Generating Facility to any short circuit occurring on the Transmission or Distribution System, as applicable, not otherwise isolated by Transmission Owner's equipment, such that the removal of the fault contribution shall be

coordinated with the protective requirements of the Transmission or Distribution System, as applicable. Such protective equipment shall include, without limitation, a disconnecting device or switch with load-interrupting capability located between the Generating Facility and the Transmission or Distribution System, as applicable, at a site selected upon mutual agreement (not to be unreasonably withheld, conditioned or delayed) of the Parties. Interconnection Customer shall be responsible for protection of the Generating Facility and Interconnection Customer's other equipment from such conditions as negative sequence currents, over- or under-frequency, sudden load rejection, over- or under-voltage, and generator loss-of-field. Interconnection Customer shall be solely responsible to disconnect the Generating Facility and Interconnection Customer's other equipment if conditions on the Transmission or Distribution System, as applicable, could adversely affect the Generating Facility.

**9.7.6 Power Quality.** Neither Party's facilities shall cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.1, in accordance with IEEE Standard 519, or any applicable superseding electric industry standard. In the event of a conflict between ANSI Standard C84.1, and any applicable superseding electric industry standard, the applicable superseding electric industry standard shall control.

**9.8 Switching and Tagging Rules.** Prior to the Initial Synchronization Date, each Party shall provide the other Parties a copy of its switching and tagging rules that are applicable to the other Parties' activities. Such switching and tagging rules shall be developed on a non-discriminatory basis. The Parties shall comply with applicable switching and tagging rules, as amended from time to time, in obtaining clearances for work or for switching operations on equipment.

**9.9 Use of Interconnection Facilities by Other Parties.**

**9.9.1** Purpose of Interconnection Facilities. Except as may be required by Applicable Laws and Regulations, or as otherwise agreed to among the Parties, the Interconnection Facilities shall be constructed for the sole purpose of interconnecting the Generating Facility to the Transmission or Distribution System, as applicable, and shall be used for no other purpose.

**9.9.2** Other Users. If required by Applicable Laws and Regulations or if the Parties mutually agree, such agreement not to be unreasonably withheld or delayed, to allow one or more Parties to use the Transmission Owner's Interconnection Facilities, or any part thereof, Interconnection Customer will be entitled to compensation for the capital expenses it incurred in connection with the Interconnection Facilities based upon the pro rata use of the Interconnection Facilities by Transmission Owner, all non-Party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually-agreed upon methodology. In addition, cost responsibility for ongoing costs, including operation and maintenance costs associated with the Interconnection Facilities, will be allocated between Interconnection Customer and any non-Party users based upon the pro rata use of the Interconnection Facilities by Transmission Owner, all non-Party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually agreed upon methodology. If the issue of such compensation or allocation cannot be resolved through such negotiations, it shall be submitted to Dispute Resolution pursuant to Section 12 of the Tariff.

**9.10 Disturbance Analysis Data Exchange.** The Parties will cooperate with one another in the analysis of disturbances to either the Generating Facility or the Transmission System by gathering and providing access to any information relating to any disturbance, including information from oscillography, protective relay targets, breaker operations and sequence of events records, and any disturbance information required by Good Utility Practice.

## ARTICLE 10. MAINTENANCE

- 10.1 Transmission Owner Obligations.** Transmission Owner shall maintain the Transmission Owner's Interconnection Facilities in a safe and reliable manner and in accordance with this GIA and all Applicable Laws and Regulations.
- 10.2 Interconnection Customer Obligations.** Interconnection Customer shall maintain the Generating Facility and the Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this GIA and all Applicable Laws and Regulations.
- 10.3 Coordination.** The Parties shall confer regularly to coordinate the planning, scheduling and performance of preventive and corrective maintenance on the Generating Facility and the Interconnection Facilities.
- 10.4 Secondary Systems.** Each Party shall cooperate with the other in the inspection, maintenance, and testing of control or power circuits that operate below 600 volts, AC or DC, including, but not limited to, any hardware, control or protective devices, cables, conductors, electric raceways, secondary equipment panels, transducers, batteries, chargers, and voltage and current transformers that directly affect the operation of a Party's facilities and equipment which may reasonably be expected to impact another Party. Each Party shall provide advance notice to the other Parties before undertaking any work on such circuits, especially on electrical circuits involving circuit breaker trip and close contacts, current transformers, or potential transformers.
- 10.5 Operating and Maintenance Expenses.** Subject to the provisions herein addressing the use of facilities by others, and except for operations and maintenance expenses associated with modifications made for providing Interconnection Service or Transmission Service to a non-Party and such non-Party pays for such expenses, Interconnection Customer

shall be responsible for all reasonable expenses including overheads, associated with:  
(1) owning, operating, maintaining, repairing, and replacing Interconnection Customer's Interconnection Facilities; and (2) operation, maintenance, repair and replacement of Transmission Owner's Interconnection Facilities to the extent required by Transmission Owner on a comparable basis.

## **ARTICLE 11. PERFORMANCE OBLIGATION**

- 11.1 Interconnection Customer's Interconnection Facilities.** Interconnection Customer shall design, procure, construct, install, own and/or control the Interconnection Customer's Interconnection Facilities described in Appendix A at its sole expense.
- 11.2 Transmission Owner's Interconnection Facilities.** Transmission Owner shall design, procure, construct, install, own and/or control the Transmission Owner's Interconnection Facilities described in Appendix A at the sole expense of Interconnection Customer.
- 11.3 Network Upgrades, System Protection Facilities and Distribution Upgrades.** Transmission Owner shall design, procure, construct, install, and own the Network Upgrades, Transmission Owner's System Protection Facilities and Distribution Upgrades described in Appendix A. Interconnection Customer shall be responsible for all costs related to Distribution Upgrades and/or Generator Upgrades. As required by Section 7.3.2.1 and 7.3.3.1 of Attachment X, Transmission Owner shall have provided Transmission Provider with written notice if Transmission Owner elects to fund the capital for the Network Upgrades and Transmission Owner's System Protection Facilities; otherwise, such facilities, if any, shall be solely funded by Interconnection Customer. In the event that the Transmission Owner elects to fund the capital costs of the Network Upgrades and/or Transmission Owner's System Protection Facilities, then the Parties shall enter into a Facilities Service Agreement. The Facilities Service Agreement shall take the form of the *pro forma* Facilities Service Agreement that is included as Appendix 14 of Attachment X to the MISO Tariff.

**11.3.1 Contingencies Affecting Network Upgrades, System Protection Facilities and Distribution Upgrades.** Network Upgrades, System Protection Facilities and Distribution Upgrades that are required to accommodate the Generating Facility may be modified because (1) a higher queued Interconnection Request withdrew or was deemed to have withdrawn, (2) the interconnection agreement associated with a higher queued Interconnection Request was terminated prior to the project's In-Service Date, (3) the Commercial Operation Date for a higher queued Interconnection Request is delayed, or the project itself is delayed (including due to suspension) such that facilities required to accommodate lower queued projects or the project itself may be altered, (4) the queue position is reinstated for a higher-queued Interconnection Request whose queue position was subject to dispute resolution, (5) changes occur in Transmission Provider or Transmission Owner equipment design standards or reliability criteria giving rise to the need for restudy, (6) the facilities required to accommodate a higher queued Interconnection Request were modified constituting a Material Modification pursuant to Section 4.4 of the GIP, (7) a GIA with an effective date prior to this GIA is terminated, (8) when ordered to restudy by FERC, or (9) the Network Upgrade Facilities Study for a Network Upgrade, which is to be included in this GIA, is completed after execution of this GIA. The higher queued Interconnection Requests that could impact the Network Upgrades, System Protection Facilities and Distribution Upgrades required to accommodate the Generating Facility, and possible Modifications that may result from the above listed events affecting the higher queued Interconnection Requests, to the extent such modifications are reasonably known and can be determined, and estimates of the costs associated with such required Network Upgrades, System Protection Facilities and Distribution Upgrades, are provided in Appendix A.

**11.3.2 Agreement to Restudy and Cost Reallocation.** In the event that one of the contingencies listed in Article 11.3.1 occurs, at any time before the Network

Upgrades, Common Use Upgrades, Shared Network Upgrades, System Protection Facilities and/or Distribution Upgrades associated with higher queued Interconnection Requests with GIA in effect prior to this GIA are completed, Transmission Provider may determine, in its discretion, that a restudy is required. If a restudy is required, Transmission Provider will provide notice to Interconnection Customer and Interconnection Customer agrees to enter into an Interconnection Study Agreement for such restudy. Transmission Provider will reevaluate the need for any Common Use Upgrade(s) and/or Shared Network Upgrade(s), and if still required, reallocate the cost and responsibility for any Common Use Upgrade and/or Shared Network Upgrade, without a restudy when possible, or with a restudy if the Transmission Provider deems it necessary in order to ensure reliability of the Transmission System. The Parties agree to amend Appendix A to this GIA in accordance with Article 30.10 to reflect the results of any cost reallocation required under this Article 11.3.2.

**11.3.3 Agreement to Fund Shared Network Upgrades.** Interconnection Customer agrees to fund Shared Network Upgrades, as determined by Transmission Provider. Where applicable, payments to fund Shared Network Upgrade(s) that are made to Transmission Provider by Interconnection Customer will be disbursed by Transmission Provider to the appropriate entities that funded the Shared Network Upgrades in accordance with Attachment X and Attachment FF of the Tariff. In the event that Interconnection Customer fails to meet its obligation to fund Shared Network Upgrades, Transmission Owner and Transmission Provider shall not be responsible for the Interconnection Customer's funding obligation.

#### **11.4 Transmission Credits.**

**11.4.1 Repayment of Amounts Advanced for Network Upgrades.** Interconnection Customer shall be entitled to a cash repayment by Transmission Owner(s) and the Affected System Owner(s) that own the Network Upgrades, of the amount

paid respectively to Transmission Owner and Affected System Operator, if any, for the Network Upgrades, as provided under Attachment FF of this Tariff and including any tax gross-up or other tax-related payments associated with the repayable portion of the Network Upgrades, and not repaid to Interconnection Customer pursuant to Article 5.17.8 or otherwise, to be paid to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, as payments are made under the Tariff and Affected System's Tariff for Transmission Services with respect to the Generating Facility. Any repayment shall include interest calculated in accordance with the methodology set forth in FERC's regulations at 18 C.F.R. § 35.19 (a)(2)(iii) from the date of any payment for Network Upgrades through the date on which Interconnection Customer receives a repayment of such payment pursuant to this subparagraph. Interest shall not accrue during periods in which Interconnection Customer has suspended construction pursuant to Article 11 or the Network Upgrades have been determined not to be needed pursuant to this Article 11.4.1. Interconnection Customer may assign such repayment rights to any person.

If the Generating Facility is designated a Network Resource under the Tariff, or if there are otherwise no incremental payments for Transmission Service resulting from the use of the Generating Facility by Transmission Customer, and in the absence of another mutually agreeable payment schedule any repayments provided under Attachment FF shall be established equal to the applicable rate for Firm Point-To-Point Transmission Service for the pricing zone where the Network Load is located multiplied by the portion of the demonstrated output of the Generating Facility designated as a Network Resource by the Network Customer(s) or in the absence of such designation, equal to the monthly firm single system-wide rate defined under Schedule 7 of the Tariff multiplied by the portion of the demonstrated output of the Generating Facility under contract to Network Customer(s) and consistent with studies pursuant to Section 3.2.2.2 of



the GIP.

Notwithstanding the foregoing, as applicable and consistent with the provisions of Attachment FF of this Tariff, Interconnection Customer, Transmission Provider, Transmission Owner, and Affected System Operator may adopt any alternative payment schedule that is mutually agreeable so long as Transmission Owner and Affected System Operator take one of the following actions no later than five (5) years from the Commercial Operation Date: (1) return to Interconnection Customer any amounts advanced for Network Upgrades not previously repaid, or (2) declare in writing that Transmission Owner or Affected System Operator will continue to provide payments to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, or develop an alternative schedule that is mutually agreeable and provides for the return of all amounts advanced for Network Upgrades not previously repaid; however, full reimbursement shall not extend beyond twenty (20) years from the Commercial Operation Date.

If the Generating Facility is installed in phases, the amount eligible for refund as each phase achieves Commercial Operation will be reduced by the proportional amount of generation capacity not yet installed. However, all facilities in Appendix A other than the Generating Facility shall be built without consideration for the phasing of the Generating Facility as though the entire Generating Facility will be placed in Commercial Operation for the full output or increased output of the Generating Facility constructed by Interconnection Customer under this GIA.

If the Generating Facility fails to achieve Commercial Operation, but it or another generating facility is later constructed and makes use of the Network Upgrades, Transmission Owner and Affected System Operator shall at that time reimburse Interconnection Customer for the remaining applicable amounts that

may be refundable pursuant to Attachment FF of this Tariff that were advanced for the Network Upgrades on their respective systems as described above. Before any such reimbursement can occur, Interconnection Customer, or the entity that ultimately constructs the Generating Facility, if different, is responsible for identifying the entity to which the reimbursement must be made.

**11.4.2** Special Provisions for Transmission Provider as an Affected System to be covered under Separate Agreements. When the Transmission Owner's Transmission or Distribution System (including for this Article 11.4.2 independent distribution systems connected to the Transmission System) is an Affected System for an interconnection in another electric system, Transmission Provider will coordinate the performance of Interconnection Studies with the other system. Transmission Provider will determine if any Network Upgrades or Distribution Upgrades, which may be required on the Transmission System as a result of the interconnection, would not have been needed but for the interconnection. Unless Transmission Owner provides, under the interconnection agreement between Interconnection Customer and the other system, for the repayment of amounts advanced to Transmission Provider or an impacted Transmission Owner for Network Upgrades, Interconnection Customer, Transmission Provider, and the impacted Transmission Owner(s) shall enter into an agreement that provides for such repayment by Transmission Owner(s) as directed by Transmission Provider. The agreement shall specify the terms governing payments to be made by Interconnection Customer to the Affected System Operator as well as the payment of refunds by the Affected System Operator.

**11.4.3** Notwithstanding any other provision of this GIA, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that Interconnection Customer, shall be entitled to, now or

in the future under any other agreement or tariff as a result of, or otherwise associated with, the transmission capacity, if any, created by the Network Upgrades, including the right to obtain cash reimbursement or transmission credits for transmission service that is not associated with the Generating Facility.

**11.5 Initial Payment.** For upgrades that the Transmission Owner has elected to self-fund, the Interconnection Customer is responsible for making the initial payment for the total cost of Network Upgrades (excluding JTIQ Upgrades) or Transmission Owner's System Protection Facilities in the form of security pursuant to Article 11.6. For upgrades where the Transmission Owner did not elect to self-fund, the Interconnection Customer shall elect (and provide its election to the Transmission Provider within five days of the commencement of negotiation of the GIA pursuant to Section 11.2 of the GIP) to make either 1) an initial payment equal to twenty (20) percent of the total cost of Network Upgrades (excluding JTIQ Upgrades), Transmission Owner Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and/or Generator Upgrades (if the In-Service Date is less than or equal to five (5) years of the initial payment date); or 2) an initial payment equal to ten (10) percent of the total cost of Network Upgrades (excluding JTIQ Upgrades), Transmission Owner Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and/or Generator Upgrades (if the In-Service Date exceeds the initial payment date by more than five (5) years); or 3) the total cost of Network Upgrades (excluding JTIQ Upgrades), Transmission Owner Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and/or Generator Upgrades in the form of security pursuant to Article 11.6. The initial payment shall be provided to Transmission Owner by Interconnection Customer pursuant to this Article 11.5 within the later of a) forty-five (45) Calendar Days of the execution of the GIA by all Parties, or b) forty-five (45) Calendar Days of acceptance by FERC if the GIA is filed unexecuted and the payment is being protested by Interconnection Customer, or c) forty-five (45) Calendar Days of the filing if the GIA is filed unexecuted and the initial payment is not

being protested by Interconnection Customer. If the Interconnection Customer made its milestone payments in the form of cash and the Interconnection Customer elects a cash initial payment, then the Transmission Provider shall transfer those funds to the Transmission Owner on the Interconnection Customer's behalf.

**11.6 Provision of Security.** Unless a milestone cash payment schedule is provided in Appendix B, Interconnection Customer shall, at least forty-five (45) Calendar Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of a facility, not otherwise funded under Article 11.5, provide additional security. Additionally, the Interconnection Customer will be required to provide security more than forty-five (45) Calendar Days in advance if requested by Transmission Owner because regulatory approvals are required for the construction of such facilities. Interconnection Customer shall provide Transmission Owner, at Interconnection Customer's selection, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Transmission Owner and is consistent with the Uniform Commercial Code of the jurisdiction identified in Article 14.2.1. Such security for payment shall be in an amount sufficient to cover the applicable costs and cost commitments, in addition to those funded under Article 11.5, required of the Party responsible for building the facilities pursuant to the construction schedule developed in Appendix B for designing, engineering, seeking regulatory approval from any Governmental Authority, constructing, procuring and installing the applicable portion of the Transmission Owner's Interconnection Facilities, Transmission Owner's System Protection Facilities, Network Upgrades, Distribution Upgrades or Stand-Alone Network Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Owner for these purposes.

In addition:

**11.6.1** The guarantee must be made by an entity that meets the creditworthiness requirements of Transmission Owner, and contain terms and conditions that

guarantee payment of any amount that may be due from Interconnection Customer, up to an agreed-to maximum amount.

- 11.6.2** The letter of credit must be issued by a financial institution reasonably acceptable to Transmission Owner and must specify a reasonable expiration date.
- 11.6.3** The surety bond must be issued by an insurer reasonably acceptable to Transmission Owner and must specify a reasonable expiration date.
- 11.6.4** If the Shared Network Upgrade is not in service, Interconnection Customer will not be required to make a payment under Schedule 26-B until the Shared Network Upgrade is in service, but Interconnection Customer will provide, as applicable, an Irrevocable Letter of Credit to fund any Shared Network Upgrade pursuant to Attachment FF of the Tariff. The Irrevocable Letter of Credit shall be in an amount sufficient to cover the Interconnection Customer's share of the applicable costs and cost commitments associated with the Shared Network Upgrades. Transmission Provider may periodically adjust the Interconnection Customer's share of the applicable costs and cost commitment of Shared Network Upgrades and may require Interconnection Customer to adjust the amount of the Irrevocable Letter of Credit accordingly.
- 11.7 Interconnection Customer Compensation.** If Transmission Provider requests or directs Interconnection Customer to provide a service pursuant to Article 13.4 of this GIA, Transmission Provider shall compensate Interconnection Customer in accordance with any tariff or rate schedule filed by Transmission Provider and approved by the FERC.
- 11.8 Provision of Security for JTIQ Upgrades.** If the Transmission Provider determines that the Interconnection Request meets the distribution factor and impact criteria specified in Section 9.4.2(d)((ii) of Rate Schedule 6 (MISO SPP JOA) and is included in the JTIQ

Participation Group, Interconnection Customer shall be required to provide security in accordance with Attachment X, Appendix 18 (MISO JTIQ Commitment Agreement) and SPP's JTIQ Service Agreement.

## ARTICLE 12. INVOICE

- 12.1 General.** Each Party shall submit to the other Party, on a monthly basis, invoices of amounts due, if any, for the preceding month. Each invoice shall state the month to which the invoice applies and fully describe the services and equipment provided. The Parties may discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts a Party owes to the other Party under this GIA, including interest payments or credits, shall be netted so that only the net amount remaining due shall be paid by the owing Party.
- 12.2 Final Invoice.** Within six (6) months after completion of the construction of the Transmission Owner's Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and the Network Upgrades, Transmission Owner shall provide an invoice of the final cost of the construction of the Transmission Owner's Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and the Network Upgrades and shall set forth such costs in sufficient detail to enable Interconnection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Transmission Owner shall refund, with interest (calculated in accordance with 18 C.F.R. Section 35.19a(a)(2)(iii), to Interconnection Customer any amount by which the actual payment by Interconnection Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.
- 12.3 Payment.** Invoices shall be rendered to the paying Party at the address specified in Appendix F. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. All payments shall be made in immediately available funds

payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party. Payment of invoices by a Party will not constitute a waiver of any rights or claims that Party may have under this GIA.

- 12.4 Disputes.** In the event of a billing dispute among the Parties, Transmission Provider shall continue to provide Interconnection Service under this GIA as long as Interconnection Customer: (i) continues to make all payments not in dispute; and (ii) pays to Transmission Provider or Transmission Owner or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If Interconnection Customer fails to meet these two requirements for continuation of service, then Transmission Provider may or, at Transmission Owner's request upon Interconnection Customer's failure to pay, Transmission Owner, shall provide notice to Interconnection Customer of a Default pursuant to Article 17. Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to another Party shall pay the amount due with interest calculated in accord with the methodology set forth in 18 C.F.R. § 35.19a(a)(2)(iii).

### **ARTICLE 13. EMERGENCIES**

- 13.1 Obligations.** Each Party shall comply with the Emergency Condition procedures of Transmission Provider, NERC, the Applicable Reliability Council, and Applicable Laws and Regulations.
- 13.2 Notice.** Transmission Provider or Transmission Owner shall notify the other Parties promptly when it becomes aware of an Emergency Condition that affects the Transmission Owner's Interconnection Facilities or the Transmission or Distribution System, as applicable, that may reasonably be expected to affect Interconnection Customer's operation of the Generating Facility or the Interconnection Customer's Interconnection Facilities.

Interconnection Customer shall notify Transmission Provider and Transmission Owner, which includes by definition if applicable, the operator of a Distribution System, promptly when it becomes aware of an Emergency Condition that affects the Generating Facility or the Interconnection Customer's Interconnection Facilities that may reasonably be expected to affect the Transmission or Distribution System, as applicable, or the Transmission Owner's Interconnection Facilities.

To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Interconnection Customer's or Transmission Provider's or Transmission Owner's facilities and operations, its anticipated duration and the corrective action taken and/or to be taken. The initial notice shall be followed as soon as practicable with written notice.

**13.3 Immediate Action.** Unless, in a Party's reasonable judgment, immediate action is required, the Party exercising such judgment shall notify and obtain the consent of the other Parties, such consent to not be unreasonably withheld, prior to performing any manual switching operations at the Generating Facility or the Interconnection Customer's Interconnection Facilities in response to an Emergency Condition either declared by Transmission Provider or otherwise regarding the Transmission or Distribution System, as applicable.

**13.4 Transmission Provider and Transmission Owner Authority.**

**13.4.1 General.** Transmission Provider or Transmission Owner may take whatever actions or inactions with regard to the Transmission System or the Transmission Owner's Interconnection Facilities it deems necessary during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Transmission System or the Transmission Owner's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service.



Transmission Provider or Transmission Owner shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Generating Facility or the Interconnection Customer's Interconnection Facilities. Transmission Provider or Transmission Owner may, on the basis of technical considerations, require the Generating Facility to mitigate an Emergency Condition by taking actions necessary and limited in scope to remedy the Emergency Condition, including, but not limited to, directing Interconnection Customer to shut-down, start-up, increase or decrease the real or reactive power output of the Generating Facility; implementing a reduction or disconnection pursuant to Article 13.4.2; directing Interconnection Customer to assist with blackstart (if available) or restoration efforts; or altering the outage schedules of the Generating Facility and the Interconnection Customer's Interconnection Facilities. Interconnection Customer shall comply with all of Transmission Provider's or Transmission Owner's operating instructions concerning Generating Facility real power and reactive power output within the manufacturer's design limitations of the Generating Facility's equipment that is in service and physically available for operation at the time, in compliance with Applicable Laws and Regulations.

- 13.4.2** Reduction and Disconnection. Transmission Provider or Transmission Owner may reduce Interconnection Service or disconnect the Generating Facility or the Interconnection Customer's Interconnection Facilities, when such reduction or disconnection is necessary under Good Utility Practice due to Emergency Conditions. These rights are separate and distinct from any right of curtailment of Transmission Provider pursuant to the Tariff. When Transmission Provider can schedule the reduction or disconnection in advance, Transmission Provider shall notify Interconnection Customer of the reasons, timing and expected duration of the reduction or disconnection. Transmission Provider shall coordinate with Interconnection Customer and Transmission Owner using Good Utility Practice to schedule the reduction or disconnection during periods of

least impact to Interconnection Customer, Transmission Owner and Transmission Provider. Any reduction or disconnection shall continue only for so long as reasonably necessary pursuant to Good Utility Practice. The Parties shall cooperate with each other to restore the Generating Facility, the Interconnection Facilities, and the Transmission System to their normal operating state as soon as practicable consistent with Good Utility Practice.

**13.5 Interconnection Customer Authority.** Consistent with Good Utility Practice and this GIA and the GIP, Interconnection Customer may take whatever actions or inactions with regard to the Generating Facility or the Interconnection Customer's Interconnection Facilities during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Generating Facility or the Interconnection Customer's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service. Interconnection Customer shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Transmission System and the Transmission Owner's Interconnection Facilities. Transmission Provider and Transmission Owner shall use Reasonable Efforts to assist Interconnection Customer in such actions.

**13.6 Limited Liability.** Except as otherwise provided in Article 11.6 of this GIA, no Party shall be liable to any other for any action it takes in responding to an Emergency Condition so long as such action is made in good faith and is consistent with Good Utility Practice.

**13.7 Audit.** In accordance with Article 25.3, any Party may audit the performance of another Party when that Party declared an Emergency Condition.

## **ARTICLE 14. REGULATORY REQUIREMENTS AND GOVERNING LAW**

**14.1 Regulatory Requirements.** Each Party's obligations under this GIA shall be subject to

its receipt of any required approval or certificate from one or more Governmental Authorities in the form and substance satisfactory to the applying Party, or the Party making any required filings with, or providing notice to, such Governmental Authorities, and the expiration of any time period associated therewith. Each Party shall in good faith seek, and if necessary assist the other Party and use its Reasonable Efforts to obtain such other approvals. Nothing in this GIA shall require Interconnection Customer to take any action that could result in its inability to obtain, or its loss of, status or exemption under the Federal Power Act, the Public Utility Holding Company Act of 2005, as amended, or the Public Utility Regulatory Policies Act of 1978.

## **14.2 Governing Law.**

**14.2.1** The validity, interpretation and performance of this GIA and each of its provisions shall be governed by the laws of the state where the Point of Interconnection is located, without regard to its conflicts of law principles.

**14.2.2** This GIA is subject to all Applicable Laws and Regulations.

**14.2.3** Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

## **ARTICLE 15. NOTICES**

**15.1 General.** Unless otherwise provided in this GIA, any notice, demand or request required or permitted to be given by any Party to the other Parties and any instrument required or permitted to be tendered or delivered by a Party in writing to the other Parties shall be effective when delivered and may be so given, tendered or delivered, by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party, at the address set out in Appendix F, Addresses for

Delivery of Notices and Billings.

Either Party may change the notice information in this GIA by giving five (5) Business Days written notice prior to the effective date of the change.

**15.2 Billings and Payments.** Billings and payments shall be sent to the addresses set out in Appendix F.

**15.3 Alternative Forms of Notice.** Any notice or request required or permitted to be given by any Party to the other and not required by this GIA to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out in Appendix F.

**15.4 Operations and Maintenance Notice.** Each Party shall notify the other Parties in writing of the identity of the person(s) that it designates as the point(s) of contact with respect to the implementation of Articles 9 and 10.

## **ARTICLE 16. FORCE MAJEURE**

**16.1 Force Majeure.**

**16.1.1** Economic hardship is not considered a Force Majeure event.

**16.1.2** A Party shall not be considered to be in Default with respect to any obligation hereunder, (including obligations under Article 4 and 5), other than the obligation to pay money when due, if prevented from fulfilling such obligation by Force Majeure. A Party unable to fulfill any obligation hereunder (other than an obligation to pay money when due) by reason of Force Majeure shall give notice and the full particulars of such Force Majeure to the other Parties in writing or by telephone as soon as reasonably possible after the occurrence of

the cause relied upon. Telephone, facsimile or email notices given pursuant to this Article shall be confirmed in writing as soon as reasonably possible and shall specifically state full particulars of the Force Majeure, the time and date when the Force Majeure occurred and when the Force Majeure is reasonably expected to cease. The Party affected shall exercise Reasonable Efforts to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

## **ARTICLE 17. DEFAULT**

### **17.1 Default**

**17.1.1** General. No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of Force Majeure as defined in this GIA or the result of an act or omission of another Party. Upon a Breach, the non-Breaching Party or Parties shall give written notice of such Breach to the Breaching Party with a copy to the other Party if one Party gives notice of such Breach. Except as provided in Article 17.1.2, the Breaching Party shall have thirty (30) Calendar Days from receipt of the Breach notice within which to cure such Breach; provided however, if such Breach is not capable of cure within thirty (30) Calendar Days, the Breaching Party shall commence such cure within thirty (30) Calendar Days after notice and continuously and diligently complete such cure within ninety (90) Calendar Days from receipt of the Breach notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.

**17.1.2** Termination. If a Breach is not cured as provided in this Article, or if a Breach is not capable of being cured within the period provided for herein, the non-Breaching Party or Parties shall terminate this GIA, subject to Article 2.3.2 of

this GIA, by written notice to the Breaching Party, with a copy to the other Party if one Party gives notice of termination, and be relieved of any further obligation hereunder and, whether or not that Party(ies) terminates this GIA, to recover from the Breaching Party all amounts due hereunder, plus all other damages and remedies to which it is (they are) entitled at law or in equity. The provisions of this Article will survive termination of this GIA.

**17.1.3** Cross-Default. Pursuant to Article 11.3 of this GIA, the Parties shall enter into a Facilities Service Agreement if the Transmission Owner has elected to fund the capital for the Network Upgrades and/or Transmission Owner's System Protection Facilities. Notwithstanding anything to the contrary contained in this GIA, a breach by Interconnection Customer of any provision, covenant, or other term or condition contained in the Facilities Service Agreement shall be considered a breach under this GIA. Such breach shall be subject to the terms of Article 17 of this GIA. If a default under this GIA results from the Interconnection Customer's breach of the Facilities Service Agreement and subsequent failure to cure, the Transmission Owner and Transmission Provider shall be entitled, but in no event required, to apply all rights and remedies available by reason of default under the Facilities Service Agreement and this GIA.

Pursuant to Section 11.3 of the GIP, an Interconnection Customer included in a JTIQ Participation Group shall execute or request the unexecuted filing both of the Transmission Provider's JTIQ Commitment Agreement and the JTIQ Service Agreement included in SPP's tariff. Notwithstanding anything to the contrary contained in this GIA, a breach by Interconnection Customer of any provision, covenant, or other term or condition contained in the JTIQ Commitment Agreement or SPP's JTIQ Service Agreement shall be considered a breach under this GIA. Such breach shall be subject to the terms of Article 17 of this GIA provided, however, that the manner and timing of cure of such

breach shall adhere to the requirements of the applicable agreement and cure in accordance with the provisions of such agreement shall also cure the breach of this GI. If a default under this GIA results from the Interconnection Customer's breach of the JTIQ Commitment Agreement or SPP JTIQ Service Agreement and subsequent failure to cure, the Transmission Owner and Transmission Provider shall be entitled, but in no event required, to apply all rights and remedies available by reason of default under the JTIQ Commitment Agreement, SPP JTIQ Service Agreement, and this GIA.

## **ARTICLE 18. LIMITATION OF LIABILITY, INDEMNITY, CONSEQUENTIAL DAMAGES AND INSURANCE**

**18.1 Limitation of Liability.** A Party shall not be liable to another Party or to any third party or other person for any damages arising out of actions under this GIA, including, but not limited to, any act or omission that results in an interruption, deficiency or imperfection of Interconnection Service, except as provided in this Tariff. The provisions set forth in the Tariff shall be additionally applicable to any Party acting in good faith to implement or comply with its obligations under this GIA, regardless of whether the obligation is preceded by a specific directive.

**18.2 Indemnity.** To the extent permitted by law, an Indemnifying Party shall at all times indemnify, defend and hold the other Parties harmless from Loss.

**18.2.1 Indemnified Party.** If an Indemnified Party is entitled to indemnification under this Article 18 as a result of a claim by a non-Party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 18.2, to assume the defense of such claim, such Indemnified Party may at the expense of the Indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

**18.2.2** Indemnifying Party. If an Indemnifying Party is obligated to indemnify and hold any Indemnified Party harmless under this Article 18, the amount owing to the Indemnified Party shall be the amount of such Indemnified Party's actual Loss, net of any insurance or other recovery.

**18.2.3** Indemnity Procedures. Promptly after receipt by an Indemnified Party of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Article 18.2 may apply, the Indemnified Party shall notify the Indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Party. If the defendants in any such action include one or more Indemnified Parties and the Indemnifying Party and if the Indemnified Party reasonably concludes that there may be legal defenses available to it and/or other Indemnified Parties which are different from or additional to those available to the Indemnifying Party, the Indemnified Party shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Party or Indemnified Parties having such differing or additional legal defenses.

The Indemnified Party shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the Indemnifying Party



(i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the Indemnified Party and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Party, or there exists a conflict or adversity of interest between the Indemnified Party and the Indemnifying Party, in such event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Party, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Party, which shall not be reasonably withheld, conditioned or delayed.

**18.3 Consequential Damages.** Other than the Liquidated Damages heretofore described, in no event shall either Party be liable under any provision of this GIA for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided; however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

**18.4 Insurance.** Transmission Owner and Interconnection Customer shall, at their own expense, maintain in force throughout the period of this GIA pursuant to 18.4.9, and until released by the other Party, the following minimum insurance coverages, with insurers authorized to do business or an approved surplus lines carrier in the state where the Point of Interconnection is located:

**18.4.1** Employers' Liability and Workers' Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the state in which the Point of Interconnection is located.

- 18.4.2** Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available and punitive damages to the extent normally available and a cross liability endorsement, with minimum limits of One Million Dollars (\$1,000,000) per occurrence/One Million Dollars (\$1,000,000) aggregate combined single limit for personal injury, bodily injury, including death and property damage.
- 18.4.3** Comprehensive Automobile Liability Insurance, for coverage of owned and non-owned and hired vehicles, trailers or semi-trailers licensed for travel on public roads, with a minimum combined single limit of One Million Dollars (\$1,000,000) each occurrence for bodily injury, including death, and property damage.
- 18.4.4** Excess Public Liability Insurance over and above the Employer's Liability, Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of Twenty Million Dollars (\$20,000,000) per occurrence/Twenty Million Dollars (\$20,000,000) aggregate.
- 18.4.5** The Commercial General Liability Insurance, Comprehensive Automobile Insurance and Excess Public Liability Insurance policies shall name the other Parties, their parents, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation in accordance with the provisions of this GIA

against the Other Party Groups and provide thirty (30) Calendar Days' advance written notice to the Other Party Groups prior to anniversary date of cancellation or any material change in coverage or condition.

- 18.4.6** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. Each Party shall be responsible for its respective deductibles or retentions.
- 18.4.7** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this GIA, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by Transmission Owner and Interconnection Customer.
- 18.4.8** The requirements contained herein as to the types and limits of all insurance to be maintained by Transmission Owner and Interconnection Customer are not intended to and shall not in any manner, limit or qualify the liabilities and obligations assumed by Transmission Owner and Interconnection Customer under this GIA.
- 18.4.9** As of the date set forth in Appendix B, Milestones, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) Calendar Days thereafter, Interconnection

Customer and Transmission Owner shall provide the other Party with certification of all insurance required in this GIA, executed by each insurer or by an authorized representative of each insurer.

**18.4.10** Notwithstanding the foregoing, Transmission Owner or Interconnection Customer may self-insure to meet the minimum insurance requirements of Articles 18.4.1 through 18.4.8, to the extent it maintains a self-insurance program; provided that, Transmission Owner's or Interconnection Customer's senior secured debt is rated at investment grade, or better, by Standard & Poor's and that its self-insurance program meets minimum insurance requirements under Articles 18.4.1 through 18.4.8. For any period of time that a Transmission Owner's or Interconnection Customer's senior secured debt is unrated by Standard & Poor's or is rated at less than investment grade by Standard & Poor's, such Party shall comply with the insurance requirements applicable to it under Articles 18.4.1 through 18.4.9. In the event that Transmission Owner or Interconnection Customer is permitted to self-insure pursuant to this article, it shall notify the other Party that it meets the requirements to self-insure and that its self-insurance program meets the minimum insurance requirements in a manner consistent with that specified in Article 18.4.9.

**18.4.11** Transmission Owner and Interconnection Customer agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this GIA.

## **ARTICLE 19. ASSIGNMENT**

**19.1 Assignment.** This GIA may be assigned by any Party only with the written consent of the other Parties; provided that a Party may assign this GIA without the consent of the other Parties to any Affiliate of the assigning Party with an equal or greater credit rating

and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this GIA; and provided further that Interconnection Customer shall have the right to assign this GIA, without the consent of either Transmission Provider or Transmission Owner, for collateral security purposes to aid in providing financing for the Generating Facility, provided that Interconnection Customer will promptly notify Transmission Provider of any such assignment. Any financing arrangement entered into by Interconnection Customer pursuant to this Article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify Transmission Provider of the date and particulars of any such exercise of assignment right(s), including providing Transmission Provider and Transmission Owner with proof that it meets the requirements of Article 11.5 and 18.4. Any attempted assignment that violates this Article is void and ineffective. Any assignment under this GIA shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

## **ARTICLE 20. SEVERABILITY**

- 20.1 Severability.** If any provision in this GIA is finally determined to be invalid, void or unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or covenant of this GIA; provided that if Interconnection Customer (or any non-Party, but only if such non-Party is not acting at the direction of either Transmission Provider or Transmission Owner) seeks and obtains such a final determination with respect to any provision of the Alternate Option (Article 5.1.2), or the Negotiated Option (Article 5.1.4), then none of these provisions shall thereafter have any force or effect and the Parties' rights and obligations shall be governed solely by the Standard Option (Article 5.1.1).

## ARTICLE 21. COMPARABILITY

- 21.1 Comparability.** The Parties will comply with all applicable comparability and code of conduct laws, rules and regulations including such laws, rules and regulations of Governmental Authorities establishing standards of conduct, as amended from time to time.

## ARTICLE 22. CONFIDENTIALITY

- 22.1 Confidentiality.** Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by a Party to another Party prior to the execution of this GIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential. The Parties shall maintain as confidential any information that is provided and identified by a Party as Critical Energy Infrastructure Information (CEII), as that term is defined in 18 C.F.R. Section 388.113(c). Such confidentiality will be maintained in accordance with this Article 22.

If requested by the receiving Party, the disclosing Party shall provide in writing, the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

- 22.1.1 Term.** During the term of this GIA, and for a period of three (3) years after the

expiration or termination of this GIA, except as otherwise provided in this Article 22 or with regard to CEII, each Party shall hold in confidence and shall not disclose to any person Confidential Information. CEII shall be treated in accordance with Commission policy and regulations.

**22.1.2** Scope. Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a non-Party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of this GIA; or (6) is required, in accordance with Article 22.1.7 of this GIA, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this GIA. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the receiving Party that it no longer is confidential.

**22.1.3** Release of Confidential Information. No Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), subcontractors, employees, agents, consultants, or to non-parties who may be or are considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with this GIA, unless such person has first been

advised of the confidentiality provisions of this Article 22 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article 22.

- 22.1.4** Rights. Each Party retains all rights, title, and interest in the Confidential Information that it discloses to the receiving Party. The disclosure by a Party to the receiving Party of Confidential Information shall not be deemed a waiver by the disclosing Party or any other person or entity of the right to protect the Confidential Information from public disclosure.
- 22.1.5** No Warranties. By providing Confidential Information, no Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, no Party obligates itself to provide any particular information or Confidential Information to another Party nor to enter into any further agreements or proceed with any other relationship or joint venture.
- 22.1.6** Standard of Care. Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to another Party under this GIA or its regulatory requirements.
- 22.1.7** Order of Disclosure. If a court or a Governmental Authority or entity with the right, power, and apparent authority to do so requests or requires any Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the disclosing Party with prompt notice of such request(s) or requirement(s) so that the disclosing Party may seek an appropriate protective



order or waive compliance with the terms of this GIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

**22.1.8** Termination of Agreement. Upon termination of this GIA for any reason, each Party shall, within ten (10) Calendar Days of receipt of a written request from another Party, use Reasonable Efforts to destroy, erase, or delete (with such destruction, erasure, and deletion certified in writing to the requesting Party) or return to the requesting Party, without retaining copies thereof, any and all written or electronic Confidential Information received from the requesting Party, except that each Party may keep one copy for archival purposes, provided that the obligation to treat it as Confidential Information in accordance with this Article 22 shall survive such termination.

**22.1.9** Remedies. The Parties agree that monetary damages would be inadequate to compensate a Party for another Party's Breach of its obligations under this Article 22. Each Party accordingly agrees that the disclosing Party shall be entitled to equitable relief, by way of injunction or otherwise, if the receiving Party Breaches or threatens to Breach its obligations under this Article 22, which equitable relief shall be granted without bond or proof of damages, and the Breaching Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Article 22, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any

nature or kind resulting from or arising in connection with this Article 22.

**22.1.10** Disclosure to FERC, its Staff or a State. Notwithstanding anything in this Article 22 to the contrary, and pursuant to 18 CFR § 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from a Party that is otherwise required to be maintained in confidence pursuant to this GIA, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 CFR § 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Parties to this GIA prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Parties to this GIA when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time any of the Parties may respond before such information would be made public, pursuant to 18 CFR § 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

**22.1.11** Subject to the exception in Article 22.1.10, any information that a disclosing Party claims is competitively sensitive, commercial or financial information under this GIA shall not be disclosed by the receiving Party to any person not employed or retained by the receiving Party, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the receiving Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the disclosing Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this GIA or as the Regional Transmission Organization or a Local Balancing Authority operator including

disclosing the Confidential Information to a regional or national reliability organization. The Party asserting confidentiality shall notify the receiving Party in writing of the information that Party claims is confidential. Prior to any disclosures of that Party's Confidential Information under this subparagraph, or if any non-Party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the Party who received the Confidential Information from the disclosing Party agrees to promptly notify the disclosing Party in writing and agrees to assert confidentiality and cooperate with the disclosing Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

## **ARTICLE 23. ENVIRONMENTAL RELEASES**

- 23.1** Each Party shall notify the other Parties, first orally and then in writing, of the release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect another Party. The notifying Party shall: (i) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than twenty-four hours after such Party becomes aware of the occurrence; and (ii) promptly furnish to the other Parties copies of any publicly available reports filed with any Governmental Authorities addressing such events.

## **ARTICLE 24. INFORMATION REQUIREMENTS**

- 24.1 Information Acquisition.** Transmission Provider, Transmission Owner and Interconnection Customer shall submit specific information regarding the electrical characteristics of their respective facilities to each other as described below and in accordance with Applicable Reliability Standards.

**24.2 Information Submission by Transmission Provider and Transmission Owner** The initial information submission by Transmission Provider to Interconnection Customer, with copy provided to Transmission Owner, shall occur no later than one hundred eighty (180) Calendar Days prior to Trial Operation and shall include Transmission or Distribution System information, as applicable and available, necessary to allow Interconnection Customer to select equipment and meet any system protection and stability requirements, unless otherwise mutually agreed to by the Parties. On a monthly basis, Transmission Owner shall provide Interconnection Customer a status report on the construction and installation of Transmission Owner's Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and Network Upgrades, including, but not limited to, the following information: (1) progress to date; (2) a description of the activities since the last report (3) a description of the action items for the next period; and (4) the delivery status of equipment ordered.

**24.3 Updated Information Submission by Interconnection Customer.** The updated information submission by Interconnection Customer to Transmission Provider, with copy to Transmission Owner, including manufacturer information, shall occur no later than one hundred eighty (180) Calendar Days prior to the Trial Operation. Interconnection Customer shall submit to Transmission Provider and Transmission Owner a completed copy of the Generating Facility data requirements contained in Appendix 1 to the GIP. It shall also include any additional information provided to Transmission Provider for the Interconnection Facilities Study. Information in this submission shall be the most current Generating Facility design or expected performance data. Information submitted for stability models shall be compatible with Transmission Provider standard models. If there is no compatible model, Interconnection Customer will work with a consultant mutually agreed to by Transmission Provider and Interconnection Customer to develop and supply a standard model and associated information.

If the Interconnection Customer's data is materially different from what was originally provided to Transmission Provider pursuant to the Interconnection Study Agreement between Transmission Provider and Interconnection Customer, then Transmission Provider will conduct appropriate studies to determine the impact on the Transmission System based on the actual data submitted pursuant to this Article 24.3. Interconnection Customer shall not begin Trial Operation until such studies are completed.

**24.4 Information Supplementation.** Prior to the Commercial Operation Date, the Parties shall supplement their information submissions described above in this Article 24 with any and all "as-built" Generating Facility information or "as-tested" performance information that differs from the initial submissions or, alternatively, written confirmation that no such differences exist. Interconnection Customer shall conduct tests on the Generating Facility as required by Good Utility Practice, such as an open circuit "step voltage" test on the Generating Facility to verify proper operation of the Generating Facility's automatic voltage regulator.

Unless otherwise agreed, the test conditions shall include: (1) Generating Facility at synchronous speed; (2) automatic voltage regulator on and in voltage control mode; and (3) a five percent (5 %) change in Generating Facility terminal voltage initiated by a change in the voltage regulators reference voltage. Interconnection Customer shall provide validated test recordings showing the responses in Generating Facility terminal and field voltages. In the event that direct recordings of these voltages is impractical, recordings of other voltages or currents that mirror the response of the Generating Facility's terminal or field voltage are acceptable if information necessary to translate these alternate quantities to actual Generating Facility terminal or field voltages is provided. Generating Facility testing shall be conducted and results provided to Transmission Provider and Transmission Owner for each individual generating unit in a station.

Subsequent to the Commercial Operation Date, Interconnection Customer shall provide

Transmission Provider and Transmission Owner any information changes due to equipment replacement, repair, or adjustment. Transmission Owner shall provide Interconnection Customer, with copy to Transmission Provider, any information changes due to equipment replacement, repair or adjustment in the directly connected substation or any adjacent Transmission Owner substation that may affect the Interconnection Customer's Interconnection Facilities equipment ratings, protection or operating requirements. The Parties shall provide such information no later than thirty (30) Calendar Days after the date of the equipment replacement, repair or adjustment.

## **ARTICLE 25. INFORMATION ACCESS AND AUDIT RIGHTS**

- 25.1 Information Access.** Each Party (the “disclosing Party”) shall make available to the other Parties information that is in the possession of the disclosing Party and is necessary in order for the other Parties to: (i) verify the costs incurred by the disclosing Party for which another Party is responsible under this GIA; and (ii) carry out its obligations and responsibilities under this GIA. The Parties shall not use such information for purposes other than those set forth in this Article 25.1 and to enforce their rights under this GIA.
- 25.2 Reporting of Non-Force Majeure Events.** A Party (the “notifying Party”) shall notify the other Parties when the notifying Party becomes aware of its inability to comply with the provisions of this GIA for a reason other than a Force Majeure event. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this Article shall not entitle any Party receiving such notification to allege a cause for anticipatory breach of this GIA.
- 25.3 Audit Rights.** Subject to the requirements of confidentiality under Article 22 of this GIA, each Party shall have the right, during normal business hours, and upon prior

reasonable notice to the other Parties, to audit at its own expense the other Parties' accounts and records pertaining to the Parties' performance or the Parties' satisfaction of obligations under this GIA. Such audit rights shall include audits of the other Parties' costs, calculation of invoiced amounts, the Transmission Provider's efforts to allocate responsibility for the provision of reactive support to the Transmission or Distribution System, as applicable, the Transmission Provider's efforts to allocate responsibility for interruption or reduction of generation, and each Party's actions in an Emergency Condition. Any audit authorized by this Article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party's performance and satisfaction of obligations under this GIA. Each Party shall keep such accounts and records for a period equivalent to the audit rights periods described in Article 25.4.

## **25.4 Audit Rights Periods.**

### **25.4.1 Audit Rights Period for Construction-Related Accounts and Records.**

Accounts and records related to the design, engineering, procurement, and construction of the Transmission Owner's Interconnection Facilities, Transmission Owner's System Protection Facilities, Distribution Upgrades and Network Upgrades shall be subject to audit for a period of twenty-four months following Transmission Owner's issuance of a final invoice in accordance with Article 12.2.

### **25.4.2 Audit Rights Period for All Other Accounts and Records.** Accounts and records related to a Party's performance or satisfaction of all obligations under this GIA other than those described in Article 25.4.1 shall be subject to audit as follows: (i) for an audit relating to cost obligations, the applicable audit rights period shall be twenty-four (24) months after the auditing Party's receipt of an invoice giving rise to such cost obligations; and (ii) for an audit relating to all other obligations, the applicable audit rights period shall be twenty-four (24)

months after the event for which the audit is sought.

- 25.5 Audit Results.** If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the Party or from whom the overpayment or underpayment is owed together with those records from the audit which support such determination.

## **ARTICLE 26. SUBCONTRACTORS**

- 26.1 General.** Nothing in this GIA shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this GIA; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this GIA in providing such services and each Party shall remain primarily liable to the other Parties for the performance of such subcontractor.
- 26.2 Responsibility of Principal.** The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this GIA. The hiring Party shall be fully responsible to the other Parties for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall Transmission Provider or Transmission Owner be liable for the actions or inactions of Interconnection Customer or its subcontractors with respect to obligations of Interconnection Customer under Article 5 of this GIA. Any applicable obligation imposed by this GIA upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.
- 26.3 No Limitation by Insurance.** The obligations under this Article 26 will not be limited in any way by any limitation of subcontractor's insurance.

## **ARTICLE 27. DISPUTES**



**27.1 Submission.** In the event any Party has a dispute, or asserts a claim, that arises out of or in connection with this GIA or its performance, such Party (the “disputing Party”) shall provide the other Parties with written notice of the dispute or claim (“Notice of Dispute”). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the non-disputing Parties. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the non-disputing Parties’ receipt of the Notice of Dispute, such claim or dispute shall be submitted for resolution in accordance with the dispute resolution procedures of the Tariff.

## **ARTICLE 28. REPRESENTATIONS, WARRANTIES AND COVENANTS**

**28.1 General.** Each Party makes the following representations, warranties and covenants:

**28.1.1 Good Standing.** Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Generating Facility, Interconnection Facilities and Network Upgrades owned by such Party, as applicable, are located; and that it has the corporate power and authority to own its properties, to carry on its business as now being conducted and to enter into this GIA and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this GIA.

**28.1.2 Authority.** Such Party has the right, power and authority to enter into this GIA, to become a Party hereto and to perform its obligations hereunder. This GIA is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar

laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

**28.1.3** No Conflict. The execution, delivery and performance of this GIA does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

**28.1.4** Consent and Approval. Such Party has sought or obtained, or, in accordance with this GIA will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this GIA, and it will provide to any Governmental Authority notice of any actions under this GIA that are required by Applicable Laws and Regulations.

## **ARTICLE 29. {RESERVED}**

## **ARTICLE 30. MISCELLANEOUS**

**30.1 Binding Effect.** This GIA and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

**30.1.1 Reversion.** If offered pursuant to an Agency Agreement under which this GIA is executed by Transmission Provider as agent for the relevant Transmission Owner, in the event that the relevant Agency Agreement terminates, any HVDC Service offered by Transmission Provider under this GIA shall revert to the relevant Transmission Owner and Transmission Provider shall be released from all obligations and responsibilities under this GIA.

**30.2 Conflicts.** In the event of a conflict between the body of this GIA and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this GIA shall prevail and be deemed the final intent of the Parties.

**30.3 Rules of Interpretation.** This GIA, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this GIA, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this GIA), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any Applicable Laws and Regulations means such Applicable Laws and Regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article of this GIA or such Appendix to this GIA, or such Section to the GIP or such Appendix to the GIP, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words of similar import shall be deemed references to this GIA as a whole and not to any particular Article or other provision hereof or thereof; (7) "including" (and with correlative meaning "include") means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, "from" means "from and including", "to" means "to but excluding" and "through" means "through and including."

**30.4 Entire Agreement.** This GIA, including all Appendices and attachments hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral

or written, between the Parties with respect to the subject matter of this GIA. There are no other agreements, representations, warranties, or covenants, which constitute any part of the consideration for, or any condition to, any Party's compliance with its obligations under this GIA.

**30.5 No Third Party Beneficiaries.** This GIA is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

**30.6 Waiver.** The failure of a Party to this GIA to insist, on any occasion, upon strict performance of any provision of this GIA will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Any waiver at any time by any Party of its rights with respect to this GIA shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this GIA. Termination or Default of this GIA for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain Interconnection Service from Transmission Provider. Any waiver of this GIA shall, if requested, be provided in writing.

**30.7 Headings.** The descriptive headings of the various Articles of this GIA have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this GIA.

**30.8 Multiple Counterparts.** This GIA may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

**30.9 Amendment.** The Parties may by mutual agreement amend this GIA by a written

instrument duly executed by all of the Parties.

**30.10 Modification by the Parties.** The Parties may by mutual agreement amend the Appendices to this GIA by a written instrument duly executed by all of the Parties. Such amendment shall become effective and a part of this GIA upon satisfaction of all Applicable Laws and Regulations.

**30.11 Reservation of Rights.** Transmission Provider shall have the right to make a unilateral filing with FERC to modify this GIA with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under Section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Transmission Owner and Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this GIA pursuant to Section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this GIA shall limit the rights of the Parties or of FERC under Sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

**30.12 No Partnership.** This GIA shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership among or between the Parties or to impose any partnership obligation or partnership liability upon any Party. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Parties.

**IN WITNESS WHEREOF**, the Parties have executed this GIA in multiple originals;  
each of which shall constitute and be an original GIA among the Parties.

Transmission Provider

**Midcontinent Independent System Operator, Inc.**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Transmission Owner

**[Insert name of Transmission Owner]**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Interconnection Customer

**[Insert name of Interconnection Customer]**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Project No. \_\_\_\_\_

## **APPENDICES TO GIA**

**Appendix A** Interconnection Facilities, System Protection Facilities, Distribution Upgrades, Generator Upgrades and Network Upgrades

**Appendix B** Milestones

**Appendix B-1** Pre-Certification Generation Test Notification Form

**Appendix C** Interconnection Details

**Appendix D** Security Arrangements Details

**Appendix E** Commercial Operation Date

**Appendix F** Addresses for Delivery of Notices and Billings

**Appendix G** Interconnection Requirements for Inverter-Based Resource Plants

**Appendix H** Interconnection Requirements for Provisional GIA

**Appendix I** Requirements Applicable to Surplus Interconnection Service

## Appendix A to GIA

### Interconnection Facilities, System Protection Facilities, Distribution Upgrades, Generator Upgrades and Network Upgrades

#### 1. Description of Generating Facility

Interconnection Customer shall install a [ ] MVA facility, rated at [ ] MW gross and [ ] MW net, with all studies performed at or below these outputs. The Generating Facility is composed of [ ] units in a [*insert description – combined cycle, single coal-fired, wind farm, etc.*] rated at [ ] each. Describe the interconnection service provided under this agreement [*insert description – Network Resource or Energy Resource*] and level of service [ ] MW.

Interconnection Customer shall install a switchyard with the appropriate protection equipment coordinated per Appendix C to this GIA. The Switchyard shall contain [ ] generator step-up transformer(s), [ ] circuit breakers connected in [ ] fashion [*describe or point to a single-line diagram*].

#### 2. Interconnection Facilities

(a) **Point of Interconnection.** The Point of Interconnection shall be at the point where \_\_\_\_\_. See Exhibit A1\_\_\_\_ Drawing No. \_\_\_\_\_ dated \_\_\_\_\_, which drawing is attached hereto and made a part hereof. If not located at the Point of Interconnection, the metering point(s) shall be located at \_\_\_\_\_.

(b) **Interconnection Facilities (including metering equipment) to be constructed by Interconnection Customer.** Interconnection Customer shall construct \_\_\_\_\_ and are detailed in Exhibit A1\_\_\_\_. These



facilities are estimated to cost \$\_\_\_\_\_ and are detailed in Exhibit A1\_\_\_\_\_.

- (c) **Transmission Owner Interconnection Facilities (including metering equipment) to be constructed by Transmission Owner.** Transmission Owner shall construct \_\_\_\_\_ and are detailed in Exhibit A1\_\_\_\_\_. These facilities are estimated to cost \$\_\_\_\_\_ and are detailed in Exhibit A1\_\_\_\_\_.

### 3. Network Upgrades

- (a) **Stand-Alone Network Upgrades to be installed by \_\_\_\_\_.** Transmission Owner shall install \_\_\_\_\_, detailed in Exhibit A2\_\_\_\_\_. These facilities are estimated to cost \$\_\_\_\_\_ and are detailed in Exhibit A2\_\_\_\_\_.
- (b) **Network Upgrades to be installed by Transmission Owner.** Transmission Owner shall install \_\_\_\_\_, detailed in Exhibit A2\_\_\_\_\_. These facilities are estimated to cost \$\_\_\_\_\_ and are detailed in Exhibit A2\_\_\_\_\_.
- (c) **Shared Network Upgrade(s) to be funded by Interconnection Customer.** Alternatively, where Transmission Provider determines that Interconnection Customer benefits from one or more prior Network Upgrades or Common Use Upgrades, those Network Upgrades and/or Common Use Upgrades will be classified by Transmission Provider as Shared Network Upgrades under this GIA, and Interconnection Customer is responsible for costs as detailed below. Interconnection Customer may later be eligible for refund and/or contribution if subsequent Interconnection Customers are identified as also benefitting from the Shared Network Upgrade(s). Interconnection Customer shall fund those Shared Network Upgrade(s) detailed in Exhibit A5. Interconnection Customer's cost share of the Share Network Upgrade(s) is estimated at \$\_\_\_\_\_, as

detailed in Exhibit A5. Interconnection Customer's cost share of the Shared Network Upgrade(s) may be reduced if later interconnection projects are determined to also benefit from the Shared Network Upgrade(s). Interconnection Customer's cost share of the Shared Network Upgrade(s) may also increase from this estimate where other projects are determined to adversely impact Interconnection Customer's cost share of the Shared Network Upgrade(s).i) If a Shared Network Upgrade is not yet in service as of the date of execution of this GIA, if applicable, Interconnection Customer shall post an Irrevocable Letter of Credit in the amount of its estimated proportionate share of the estimated cost of that Shared Network Upgrade in accordance with Article 11.6.4 as of the date set forth in Appendix B to this GIA.

#### 4. System Protection Facilities

- (a) **System Protection Facilities not listed in Section 2 or 3 to be constructed by Interconnection Customer.** Interconnection Customer shall construct \_\_\_\_\_ detailed in Exhibit A3\_\_\_\_. These facilities are estimated to cost \$ \_\_\_\_\_ and are detailed in Exhibit A3\_\_\_\_.
- (b) **System Protection Facilities not listed in 2 or 3 to be constructed by Transmission Owner.** Transmission Owner shall construct \_\_\_\_\_ and detailed in Exhibit A3\_\_\_\_. These facilities are estimated to cost \$ \_\_\_\_\_ and are detailed in Exhibit A3\_\_\_\_.

#### 5. Distribution Upgrades

- (a) **Distribution Upgrades to be constructed by (Transmission/Distribution) Owner (select one for final version).** (Transmission/Distribution) Owner shall construct \_\_\_\_\_ detailed in Exhibit A4\_\_\_\_. These facilities are estimated to cost \$ \_\_\_\_\_ and are detailed in Exhibit A4\_\_\_\_.

6. Contingency List [include higher queued Interconnection Requests with GIAs prior to this GIA and contingency Network Upgrades, System Protection Facilities or Distribution Upgrades of higher queued Interconnection Request with GIAs prior to this GIA pursuant to Article 11.3.1 that are subject to restudy in accordance with Article 11.3.2]

(a) Contingency List of MTEP Appendix B projects and contingent actions should Appendix B projects not proceed by listed date to Appendix A.

7. Affected System Upgrades List (include higher queued Interconnection Requests with GIAs prior to this GIA)

8. JTIQ Upgrades

[To be included in GIA if Interconnection Customer is responsible for a portion of a portfolio of JTIQ Upgrades] Interconnection Customer is subject to the JTIQ Generator Charge in accordance with Attachment JJJ of the MISO Tariff and Appendix I of this GIA.

JTIQ Security amount:

- A. Constructing MISO Transmission Owner

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

- B. SPP:

## Appendix B to GIA

### Milestones

1. **Selected Option pursuant to Article 5.1:** Interconnection Customer selects the [ ] Option as described in Article 5.1.[ ], 5.1.[ ] and 5.1.[ ] shall not apply to this GIA.
2. **Milestones:** The description and date entries listed in the following tables are provided solely for the convenience of the Parties in establishing their applicable Milestones consistent with the provisions of this GIA and the GIP.

#### A. Interconnection Customer Milestones

|  |  |
|--|--|
|  |  |
|  |  |

| <u>No.</u> | <u>Description</u>                                       | <u>Date</u>                                                                                                                                                                                                                                                                                                         |
|------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1a.        | Provide initial payment to Transmission Owner (GIA 11.5) | Within the later of a) 45 Calendar Days of the execution of the GIA by all Parties, or b) 45 Calendar Days of acceptance by FERC if the GIA is filed unexecuted and the payment is being protested by Interconnection Customer, or c) 45 Calendar Days of the filing if the GIA is filed unexecuted and the initial |

|     |                                                                                                                                                                                                                                      |                                                                                                                                            |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                                                                                                                                                                                                      | payment is not being protested by Interconnection Customer.                                                                                |
| 1b. | Provide security, <i>i.e.</i> , a guarantee, surety bond, letter of credit or other reasonably acceptable form of security to Transmission Owner (GIA 11.6).                                                                         | 45 Calendar Days prior to design, procurement and construction.                                                                            |
| 1c. | Enter into a Facilities Service Agreement (“FSA”) as may be applicable, with Transmission Owner for the Network Upgrades associated with this GIA.                                                                                   | Within 90 Calendar Days of the Effective Date of the GIA and prior to in-service date of Network Upgrades associated with this GIA.        |
| 1d. | Enter into amendment of this GIA, if required, for Interconnection Requests that did not elect optional negotiation period adjustment for Interconnection Facilities Study pursuant to GIA Section 11.3.1.                           | Within 90 days of the posting of the final Interconnection Facilities report.                                                              |
| 1e. | Enter into SPP JTIQ Service Agreement (if included in JTIQ Participation Group) pursuant to GIP Section 11.1.                                                                                                                        | Within 15 Calendar Days after tender.                                                                                                      |
| 1f. | <u>Enter into any agreement required by an Affected System for the study, construction, or funding of a network upgrade to mitigate impacts (for Interconnection Requests processed through ERAS) pursuant to GIP Section 3.5.2.</u> | <u>Within 15 Calendar Days after tender.</u>                                                                                               |
| 2.  | Provide Certificate of Insurance (GIA 18.4.9).                                                                                                                                                                                       | The earlier of the construction work commencement date or the milestone date; thereafter, within 90 Calendar Days of end of fiscal year or |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                    |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | insurance renewal date.                                                                            |
| 3. | <p>i) Provide to Transmission Provider evidence of continued Site Control after execution of this GIA (GIP 7.2.2).</p> <p>ii) Provide evidence of one or more of the following milestones being achieved: (1) execution of contract for (a) fuel supply or transport; (b) cooling water supply; (c) engineering procurement of major equipment or construction; (d) execution of a contract for the sale of electric energy or capacity from the Generating Facility, or a statement signed by an officer or authorized agent of Interconnection Customer attesting that the Generating Facility is included in an applicable state resource adequacy plan; or other information that Transmission Provider deems to be reasonable evidence that the Generating Facility will qualify as a designated network resource; or (2) documentation of application for state or local air, water, land, or federal nuclear or hydroelectric permits and that the application is proceeding per regulations (GIP 11.3).</p> | <p>When requested by Transmission Provider.</p> <p>Within 180 Calendar Days of Effective Date.</p> |
| 4. | Provide security in the amount of \$_____ to Transmission Owner to commence design, equipment procurement and construction for Interconnection Facilities (GIA 5.5 and 5.6).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | As may be agreed to by the Parties.                                                                |
| 5. | Invoice Transmission Owner for the estimated amount                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | As may be agreed to by the                                                                         |

|      |                                                                                                                                                                                                                                        |                                                                                                                                         |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
|      | to be expended by the Interconnection Customer to construct any Stand Alone Network Upgrades for which the Interconnection Customer has exercised its Option to Build if the Transmission Owner has elected to Self Fund (GIA 5.2.13). | Parties, but in no event later than 45 Calendar Days prior to the date the Interconnection Customer must make any construction payment. |
| 6.   | Pre-construction meeting.                                                                                                                                                                                                              | As may be agreed to by the Parties.                                                                                                     |
| 7.   | Provide initial design and specifications for Interconnection Customer's Interconnection Facilities to Transmission Owner and Transmission Provider for comment (GIA 5.10.1).                                                          | 180 Calendar Days prior to initial synchronization date.                                                                                |
| 8.   | Provide final design and specifications for Interconnection Customer's Interconnection Facilities to Transmission Owner and Transmission Provider for comment (GIA 5.10.1).                                                            | 90 Calendar Days prior to initial synchronization date.                                                                                 |
| 9.   | Deliver to Transmission Owner and Transmission Provider "as-built" drawings, information and documents regarding Interconnection Customer's Interconnection Facilities (GIA 5.10.3).                                                   | Within 120 Calendar Days of Commercial Operation Date.                                                                                  |
| 10.  | Provide Transmission Owner final cost invoices to construct Stand Alone Network Upgrades for which the Interconnection Customer has exercised its Option to Build if the Transmission Owner has elected to Self Fund (GIA 5.2.13).     | Within six (6) months of completion.                                                                                                    |
| 10a. | Transfer ownership of the Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to Transmission Owner if Interconnection Customer has exercised the Option to Build (GIA                                    | As agreed to by the Parties but in no event later than the earlier of energization or three days prior to the Initial                   |

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                      |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|      | 5.2.9).                                                                                                                                                                                                                                                                                                                                                                                                                        | Synchronization Date.                                                                |
| 10b. | Refund overpayment, if any, of estimated costs to construct any Stand Alone Network Upgrades for which the Interconnection Customer has exercised its Option to Build if the Transmission Owner has elected to Self Fund (GIA 5.2.13).                                                                                                                                                                                         | Within 30 Calendar Days after submitting invoice for final costs under Milestone 10. |
| 11.  | Notify Transmission Provider and Transmission Owner in writing of Local Balancing Authority where Generating Facility is located (GIA 9.2).                                                                                                                                                                                                                                                                                    | Three months prior to Initial Synchronization Date.                                  |
| 12.  | Pre-energization meeting.                                                                                                                                                                                                                                                                                                                                                                                                      | As may be agreed to by the Parties.                                                  |
| 13.  | Initial Synchronization Date.                                                                                                                                                                                                                                                                                                                                                                                                  | As agreed to by the Parties.                                                         |
| 14.  | Commercial Operation Date.                                                                                                                                                                                                                                                                                                                                                                                                     | As agreed to by the Parties.                                                         |
| 15.  | Interconnection Customer shall provide the Parties with notice on the status of the Generating Facility, including COD, under Article 15 of this GIA and shall also send such notice by email to <a href="mailto:ResourceIntegration@misoenergy.org">ResourceIntegration@misoenergy.org</a> . Notification shall include Interconnection Customer's name, and as applicable Market Participant(s) name(s), and project number. | 6 months prior to Initial Synchronization Date.                                      |
| 16.  | Interconnection Customer shall provide notice to the Parties of a test plan in advance of conducting tests for the Generating Facility. The notice shall be in the form below and should be provided under Article 15 of this GIA, and a copy of such notice should be emailed to <a href="mailto:ResourceIntegration@misoenergy.org">ResourceIntegration@misoenergy.org</a> .                                                 | 5 Business Days prior to testing.                                                    |



|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                             |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 17. | In the event the Interconnection Customer makes any modifications to the design of the site layouts or interconnection facility routes after execution of this GIA, Interconnection Customer shall notify the Parties of such changes immediately upon identifying the need for such changes. After providing such notification, the Interconnection Customer shall provide to Transmission Provider evidence of continued Site Control for land sufficient to accommodate the changes in site layouts and/or interconnection facility routes (GIP 7.2.2). | 90 Calendar Days after Interconnection Customer provides notice to Parties. |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|

**B. Transmission Owner Milestones**

|  |  |
|--|--|
|  |  |
|  |  |

| <b><u>No.</u></b> | <b><u>Description</u></b>                                                                                               | <b><u>Date</u></b>                                                                                                                                     |
|-------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0.                | Transmission Owner to enter Network Upgrade information into Transmission Provider's MTEP database and model on demand. | 10 Business Days after Effective Date.                                                                                                                 |
| 1.                | Provide Certificate of Insurance (GIA 18.4.9).                                                                          | The earlier of the construction work commencement date or the milestone date; within 90 Calendar Days of end of fiscal year or insurance renewal date. |
| 2.                | <ul style="list-style-type: none"> <li>Commence design of Interconnection Facilities</li> </ul>                         | As agreed to by the Parties                                                                                                                            |

|     |                                                                                                                                                                                                     |                                                                                                                                                                                  |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | <p>(GIA 5.5 et seq.).</p> <ul style="list-style-type: none"> <li>Commence equipment procurement.</li> </ul>                                                                                         | <p>(after completion of Interconnection Facilities Study, receipt of written authorization from Interconnection Customer and Interconnection Customer's deposit of security.</p> |
| 3.  | Commence construction of Interconnection Facilities (GIA 5.6 et seq.).                                                                                                                              | As agreed to by the Parties (after receiving approval of Governmental Authority, receipt of written authorization and security from Interconnection Customer).                   |
| 4.  | Comment on Interconnection Customer's final design and specifications.                                                                                                                              | Within 30 Calendar Days of Interconnection Customer's submission of final design and specifications.                                                                             |
| 5.  | Deliver to Interconnection Customer and Transmission Provider "as-built" drawings, information and documents regarding Transmission Owner's Interconnection Facilities (GIA 5.11).                  | Within 120 Calendar Days of Commercial Operation Date.                                                                                                                           |
| 6.  | Provide payment for invoiced estimated costs to construct for which the Interconnection Customer has exercised its Option to Build if the Transmission Owner has elected to Self Fund (GIA 5.2.13). | Within 30 Calendar Days of receipt of Interconnection Customer's invoice for estimated costs.                                                                                    |
| 6a. | Provide payment for invoiced final cost to construct Stand Alone Network Upgrades for which the                                                                                                     | Within 30 Calendar Days of receipt of Interconnection                                                                                                                            |

|    |                                                                                                                             |                                                                                             |
|----|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
|    | Interconnection Customer has exercised its Option to Build if the Transmission Owner has elected to Self Fund (GIA 5.2.13). | Customer's invoice for final costs.                                                         |
| 7. | Provide Interconnection Customer final cost invoices (GIA 12.2 <i>et seq.</i> ).                                            | Within (6) six months of completion.                                                        |
| 8. | Refund overpayment of estimated costs (GIA 12.2).                                                                           | 90 Calendar Days prior to initial synchronization date.<br>Refunds within 30 Calendar Days. |
| 9. | In-Service Date/Backfeed Date.                                                                                              | As agreed to by the Parties.                                                                |

**C. Affected System Owner Milestones**

| Task | Date Due |
|------|----------|
|      |          |

**Appendix B-1 to GIA**  
**Pre-Certification Generation Test Notification Form**

The following form would need to be submitted to MISO Real Time Operations at least five (5) Business Days prior to the first date of testing.

Project Number:

Project Name:

Point of Interconnection:

Dispatcher Contact Information:

| <b>Date</b> | <b>Start Time<br/>(in EST)</b> | <b>End Time<br/>(in EST)</b> | <b>Expected MW<br/>Output</b> | <b>Expected MVAR<br/>Output (Only needed if<br/>beyond normal power<br/>factor)</b> |
|-------------|--------------------------------|------------------------------|-------------------------------|-------------------------------------------------------------------------------------|
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |
|             |                                |                              |                               |                                                                                     |

**Appendix C to GIA**  
**Interconnection Details**

This Appendix C is a part of this GIA among Interconnection Customer, Transmission Owner and Transmission Provider.

1. Transmission Owner shall provide the following “as-built” drawings, information and documents regarding the Transmission Owner’s Interconnection Facilities pursuant to Article 5.11 of this GIA.
2. The unique requirements of each generation interconnection will dictate the establishment of mutually agreeable Interconnection and/or Operating Guidelines that further define the requirements of this GIA. The Interconnection and/or Operating Guidelines applicable to this GIA consist of the following information. Additional detail may be provided through attachment to this Appendix C or through electronic means via the web address specified.
  - (a) System Protection Facilities;
  - (b) Communication requirements;
  - (c) Metering requirements;
  - (d) Grounding requirements;
  - (e) Transmission Line and Substation Connection configurations;
  - (f) Unit Stability requirements;
  - (g) Equipment ratings;
  - (h) Short Circuit requirements;
  - (i) Synchronizing requirements;
  - (j) Generation and Operation Control requirements;
  - (k) Data provisions;
  - (l) Energization inspection and testing requirements; and
  - (m) Control equipment, if any.
3. Information required pursuant to Section 8.4 for Variable Energy Resource Generating Facilities: \_\_\_\_\_.

**Appendix D to GIA**  
**Security Arrangements Details**

Infrastructure security of Transmission or Distribution System equipment and operations, as applicable, and control hardware and software is essential to ensure day-to-day Transmission and Distribution System reliability and operational security. The Commission will expect all Transmission Providers, market participants, and Interconnection Customers interconnected to the Transmission or Distribution System, as applicable, to comply with the recommendations provided by Governmental Authorities regarding Critical Energy Infrastructure Information (“CEII”) as that term is defined in 18 C.F.R. Section 388.113(c) and best practice recommendations from the electric reliability authority. All public utilities will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

**Appendix E to GIA**  
**Commercial Operation Date**

This Appendix E is a part of this GIA between Transmission Provider, Transmission Owner and Interconnection Customer.

**[Date]**

Midcontinent Independent System Operator, Inc.  
Attn: Director, Transmission Access Planning  
720 City Center Drive  
Carmel, IN 46032

Re: \_\_\_\_\_ Generating Facility

Dear \_\_\_\_\_:

On **[Date]** **[Interconnection Customer]** has completed Trial Operation of Unit No. \_\_\_\_.  
This letter confirms that **[Interconnection Customer]** commenced commercial operation of Unit No. \_\_\_\_ at the Generating Facility, effective as of **[Date plus one Calendar Day]**.

Thank you.

**[Signature]**

**[Interconnection Customer Representative]**

cc: Transmission Owner

**Appendix F to GIA**  
**Addresses for Delivery of Notices and Billings**

**Notices:**

Transmission Provider:

MISO  
Attn: Director, Transmission Access Planning  
720 City Center Drive  
Carmel, IN 46032

Transmission Owner:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

**Billings and Payments:**

Transmission Provider:

MISO  
Attn: Director, Transmission Access Planning  
720 City Center Drive  
Carmel, IN 46032



Transmission Owner:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

**Alternative Forms of Delivery of Notices (telephone, facsimile or email):**

Transmission Provider:

Phone: (317) 249-5700

Email: misotap@misoenergy.org or

MISOTransmissionAccessPlanning@misoenergy.org

Transmission Owner:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

## Appendix G to GIA

### Interconnection Requirements for Inverter-Based Resource Plants

Appendix G sets forth requirements and provisions specific to inverter-based resource (IBR) plants. Transmission Owner Local Planning Criteria for IBR performance may differ from Appendix G requirements. In such cases, Transmission Owner Local Planning Criteria shall supersede the Appendix G requirements and be documented in Appendix C of this GIA<sup>1</sup>. All other requirements of this GIA also apply to IBR plant interconnections. *IBR plants* shall meet both Applicable Reliability Standards and Appendix G requirements. Battery energy storage systems required to furnish grid-forming controls shall be exempt from specific IEEE 2800 requirements as outlined in the BPM for Generator Interconnection. Italicized terms indicate IEEE 2800-2022 defined terms<sup>2</sup>. IEEE 2800-2022's definitions will govern these italicized terms unless otherwise defined herein.

#### A. General

The *IBR plant* shall adhere to IEEE 2800-2022 Clause 4 requirements, except for subclauses 4.1 (introduction), 4.5 (operational measurement and communication capability), 4.6 (control capability requirements), 4.8 (isolation devices), 4.9 (inadvertent energization of TS), 4.11 (interconnection integrity), and 4.12 (integration with TS grounding).

Within the adopted IEEE 2800-2022 Subclauses, the following requirements shall be incorporated as Transmission Provider and Transmission Owner<sup>3</sup> specification options noted in IEEE 2800-2022.

- Subclause 4.2.1: The *reference point of applicability* (RPA) shall be at the *point of measurement* (POM) bus with the exception of requirements specified in

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<sup>1</sup> IEEE 2800-2022 points to "weak grid" issues requiring exceptions to default values and ranges of available settings for various types of performance. IEEE 2800-2022 Annex C.2 contains discussion on characterizing weak grid areas.

<sup>2</sup> "IEEE Standard for Interconnection and Interoperability of Inverter-Based Resources (IBRs) Interconnecting with Associated Transmission Electric Power Systems," in IEEE Std 2800-2022 , vol., no., pp.1-180, 22 April 2022, doi: 10.1109/IEEEESTD.2022.9762253.

<sup>3</sup> For the purpose of this GIA, the IEEE 2800 term of *TS operator* is synonymous with Transmission Owner and the IEEE 2800 term of *TS owner* is synonymous with Transmission Planner or Transmission Owner, as applicable.

Clauses 7.2.2.3.4 and 7.2.2.3.5 of the standard to have the RPA at the *point of connection* (POC).

- Subclause 4.3: The Transmission Owner shall specify the nominal voltage and frequency at the RPA in Appendix C of this GIA.
- Subclause 4.10.2: The *enter service* criteria shall use the default values for *applicable voltages* and *applicable frequency* specified in the table below unless otherwise specified in Appendix C of this GIA<sup>4</sup>.

| Enter service criteria                      | Default setting |
|---------------------------------------------|-----------------|
| <i>Applicable voltage</i> , minimum value   | 0.9 p.u.        |
| <i>Applicable voltage</i> , maximum value   | 1.05 p.u.       |
| <i>Applicable frequency</i> , minimum value | 58.8 Hz         |
| <i>Applicable frequency</i> , maximum value | 60.12 Hz.       |

- Subclause 4.10.3: The performance during *enter service* shall use the default values specified below unless otherwise specified in Appendix C of this GIA.
  - The minimum intentional delay performance, as defined in Subclause 4.10.3, b), shall be 0 seconds.
  - The duration of the *enter service* period, as defined in Subclause 4.10.3, c), shall be 300 seconds.

## **B. Response to Abnormal Conditions**

The *IBR plant* shall adhere to IEEE 2800-2022 Clause 7 requirements, except for subclauses 7.2.1 (voltage protection) and 7.3.1 (mandatory frequency tripping). Where Applicable Reliability Standards require more stringent ride-through requirements compared to IEEE 2800-2022 Clause 7 requirements, those standards shall take precedence<sup>5</sup>.

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<sup>4</sup> MISO default values may be modified within the IEEE 2800 range of allowable settings by Transmission Owner Local Planning Criteria.

<sup>5</sup> More stringent ride-through requirements include, but are not limited to, expanded voltage and frequency

Within the adopted IEEE 2800-2022 Subclauses, the following requirements shall be incorporated as the Transmission Provider and Transmission Owner decision points<sup>6</sup> noted in IEEE 2800-2022.

- Subclause 7.2.2.1: The Transmission Owner shall specify the nominal voltage for use by this clause. Nominal voltages may include nominal transmission system voltages that are different from standard ANSI C84.1-2016 voltages.
- Subclause 7.2.2.2: If the *IBR plant* cannot deliver both active and reactive power due to its current limit (or apparent power limit), when the *applicable voltage* is below 95%, then preference shall be given to reactive power while minimizing any reductions in active power.
- Subclause 7.2.2.3: The *IBR plant* shall give preference to reactive power unless otherwise specified in Appendix C of this GIA. In addition, the *IBR plant* shall minimize reductions in active power while carrying out the reactive current priority mode response.
- Subclause 7.2.2.3.4: The Interconnection Customer shall submit the *IBR plant* controls default relationship between the magnitude of incremental positive and negative sequence reactive currents. The Transmission Provider and Transmission Owner, through this agreement, may specify a required *IBR plant* response relationship between the incremental positive and negative sequence reactive currents.

### C. Reactive Power

The *IBR plant* shall adhere to IEEE 2800-2022 Clause 5 requirements.

Within the adopted IEEE 2800-2022 Subclauses, the following requirements shall be incorporated as the Transmission Provider and Transmission Owner decision points noted in IEEE 2800-2022.

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conditions or extended cumulative times under which *IBR plants* must ride-through.

<sup>6</sup> Decision points refer to language in the IEEE 2800-2022 standard that leaves default values, application of requirements, and other details open for the *TS Owner* or *TS Operator* to define.

- Subclause 5.1: The *IBR plant* shall have the reactive power capabilities outlined in this clause. Consistent with section 9.6.1 of this GIA, an *IBR plant* shall maintain a power factor within the range of 0.95 leading to 0.95 lagging, unless Transmission Provider has established different requirements that apply to all Generating Facilities in the Local Balancing Authority on a comparable basis, measured at the high side of the generator substation.
- Subclause 5.2.2: The voltage control dynamic performance requirements in Table 5 shall apply when the system short-circuit strength at the RPA is equal to or above the minimum short-circuit strength identified by the Transmission Provider or Transmission Owner.
- Subclause 5.2.2: The *reaction time*, as defined in Subclause 5.2.2 Table 5, shall be 250 milliseconds or less.
- Subclause 5.2.2: The maximum *step response time*, as defined in Subclause 5.2.2 Table 5, shall be 30 seconds.
- Subclause 5.2.3: The power factor control mode shall appropriately operate at all active power levels from the Inverter Based Resource Continuous Rating (“ICR”) down to, but not including, zero.

**D. Primary Frequency Response**

The *IBR plant* shall adhere to IEEE 2800-2022 Clause 6 requirements, except for Subclause 6.2 (fast frequency response).

Within the adopted IEEE 2800-2022 Subclauses, the following requirements shall be incorporated as the Transmission Provider and Transmission Owner decision points noted in IEEE 2800-2022.

- Subclause 6.1.1: The use of primary frequency response capabilities shall be required for all *IBR plants*.
- Subclause 6.1.1: Frequency droop shall be based on the difference between nameplate capacity and zero output such that the slopes of the droop curves are always constant.

- Subclause 6.1.2: The *settling band* default value in Table 8 shall be based on the maximum of 2.5% of change or 0.5% of nameplate capacity.

The exceptions to primary frequency response requirements provided to electric storage resources in Article 9.6.4.4 of this GIA shall still apply.

*TABLE 1. SUMMARY OF ADOPTION TREATMENT OF IEEE 2800-2022 SUBCLAUSES*

| IEEE 2800-2022 Subclause                                    | Required by<br>Appendix G<br>for DPP-2022<br>and later | Required by<br>Appendix G<br>for DPP-2023<br>and later | Exception |
|-------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|-----------|
| 4.1 Introduction                                            |                                                        |                                                        | <b>X</b>  |
| 4.2 Reference Point of Applicability                        | <b>X</b>                                               |                                                        |           |
| 4.3 Applicable Voltages and Frequencies                     | <b>X</b>                                               |                                                        |           |
| 4.4 Measurement Accuracy                                    | <b>X</b>                                               |                                                        |           |
| 4.5 Operational Measurement and<br>Communication Capability |                                                        |                                                        | <b>X</b>  |
| 4.6 Control Capability                                      |                                                        |                                                        | <b>X</b>  |
| 4.7 Prioritization of IBR Responses                         | <b>X</b>                                               |                                                        |           |
| 4.8 Isolation Devices                                       |                                                        |                                                        | <b>X</b>  |
| 4.9 Inadvertent Energization of TS                          |                                                        |                                                        | <b>X</b>  |
| 4.10 Enter Service                                          | <b>X</b>                                               |                                                        |           |
| 4.11 Interconnection Integrity                              |                                                        |                                                        | <b>X</b>  |
| 4.12 Integration with TS grounding                          |                                                        |                                                        | <b>X</b>  |
| 5.1 Reactive Power Capability                               |                                                        | <b>X</b>                                               |           |
| 5.2 Voltage and Reactive Power Modes                        |                                                        | <b>X</b>                                               |           |
| 6.1 Primary Frequency Response                              |                                                        | <b>X</b>                                               |           |
| 6.2 Fast Frequency Response                                 |                                                        |                                                        | <b>X</b>  |
| 7.1 Introduction                                            | <b>X</b>                                               |                                                        |           |

|                                                             |   |
|-------------------------------------------------------------|---|
| 7.2.1 Voltage protection                                    | X |
| 7.2.2.1 Voltage disturbance ride-through:<br>General        | X |
| 7.2.2.2 Voltage disturbances within continuous<br>operation | X |
| 7.2.2.3 Low- and high-voltage ride-through                  | X |
| 7.2.2.4 Consecutive voltage deviations ride-<br>through     | X |
| 7.2.2.5 Dynamic voltage support                             | X |
| 7.2.2.6 Restore output after voltage ride-through           | X |
| 7.2.3 Transient overvoltage                                 | X |
| 7.3.1 Mandatory frequency tripping                          | X |
| 7.3.2 Frequency disturbance ride-through                    | X |
| 7.4 Return to service                                       | X |

**E. Supervisory Control and Data Acquisition (SCADA) Capability**

The *IBR plant* shall provide SCADA capability to transmit data and receive instructions from Transmission Provider to protect system reliability. Transmission Provider and Interconnection Customer shall determine what SCADA information is essential for the proposed *IBR plant*, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.

**F. Disturbance Monitoring and Reporting Requirements**

*IBR plants* with generating capacities of more than 20 MW must monitor and record data for all frequency ride-through events, transient low-voltage disturbances that initiated reactive current injection, reactive current injection or momentary cessation for transient high-voltage disturbances, and inverter trips. Dynamic Disturbance Recording (“DDR”) data must be recorded continuously. The data may be recorded and stored in a central plant control system.

The following data must be recorded:

Plant Level

- (1) Plant three-phase voltage, current and power factor
- (2) Status of ancillary reactive devices
- (3) Status of all plant circuit breakers
- (4) Status of plant controller
- (5) Plant control set points
- (6) Status of main plant transformer no load taps
- (7) Status of main plant transformer tap changer (if applicable)
- (8) Protective relay trips (relay target data)

Inverter Level Data

- (1) Frequency, current, and voltage during frequency ride-through events
- (2) Voltage and current during momentary cessation for transient high-voltage events  
(when used)
- (3) Voltage and current during reactive current injection for transient low or high-voltage events
- (4) Inverter alarm and fault codes
- (5) DC current
- (6) DC voltage

DDR Data – Plant Level

- (1) One phase-to-neutral or positive sequence voltage on high-side of the main power transformer(s)
- (2) Positive sequence current or phase current for the same phase as (1)
- (3) Real and reactive power flows expressed on a three-phase basis corresponding to each main power transformer(s) where current measurements are required
- (4) Frequency of any one of the voltages in (1)

The data must be time synchronized to a one millisecond level of resolution. All data except DDR data must be sampled at least every 10 milliseconds. DDR data must have an input sampling rate of at least 960 samples per second and an output recording rate of electrical



quantities of at least 60 times per second.

The *IBR plant* shall store this data for a minimum of 60 calendar days. The *IBR plant*, upon request from MISO or the transmission owner, shall make this data available within 10 calendar days of the request.

Phasor measurement unit (“PMU”) capabilities shall be used to facilitate the DDR data.

#### **G. Applicability**

*IBR plants* that are, or have been, interconnected to the network at the effective date of the Appendix G abnormal voltage ride-through standard are exempt from meeting the Appendix G abnormal voltage ride-through standard for the remaining life of the existing generation equipment. Except for *IBR plants* actively undergoing a Generating Facility Replacement at the effective date of this GIA that have equipment on order where the OEM has documented performance that differs from what is required in this GIA, all individual IBR units that are replaced are required to meet the Appendix G performance requirements.

The IEEE 2800-2022 requirements cited in Section A (IEEE 2800-2022 Clause 4) and Section B (IEEE 2800-2022 Clause 7, except Subclause 7.2.2.4) of Appendix G shall apply to *IBR plants* in the DPP-2022-Cycle and beyond. For the DPP-2022-Cycle, Interconnection Customers may request exceptions confined to these sections only if specific limitations or uncertainties of equipment or plant capabilities prevent implementation of these requirements. GIAs signed or amended with inverter changes on or after January 1, 2025, are not eligible for requirement exceptions. Further, the process for establishing exceptions for these requirements shall not apply beyond the DPP-2022-Cycle.

The IEEE 2800-2022 requirements cited in Section B (IEEE 2800-2022 Subclause 7.2.2.4), Section C (IEEE 2800-2022 Clause 5), and Section D (IEEE 2800-2022 Clause 6) of Appendix G shall apply to *IBR plants* in the DPP-2023-Cycle and beyond. For the DPP-2023-Cycle, Generating Facilities Replacements, and Surplus Interconnections, Interconnection Customers may request exceptions confined to these sections only if specific limitations or uncertainties of equipment or plant capabilities prevent implementation of these requirements. GIAs signed or amended with inverter changes on or after January 1, 2026, are not eligible for requirement exceptions. Further, the process for establishing exceptions for these requirements

shall not apply beyond the DPP-2023-Cycle.

Interconnection Customers requesting exceptions shall submit documentation to the Transmission Provider outlining the specific IEEE 2800-2022 subclauses pertinent to the request along with information from the manufacturer regarding the nature of the issue conforming to or assessing conformance with requirements herein. The Transmission Provider will, in good faith, accept Original Equipment Manufacturer (OEM)-documented requirement exceptions and document these exceptions in Appendix C of this GIA.

If the performance or capability exception can be mitigated through equipment firmware upgrades still under development, the Interconnection Customer shall use commercially reasonable efforts to implement the firmware upgrade within sixty (60) calendar days of commercial availability of such firmware.

The DDR and PMU requirements in the Section F, Disturbance Monitoring and Reporting Requirements of Appendix G shall apply to *IBR plants* in the DPP-2023-Cycle and beyond.

**Appendix H to GIA**  
**Interconnection Requirements for Provisional GIA**

**Provisional Agreement**

This GIA is being provided in accordance with Section 11.5 of the Transmission Provider's GIP, which provides among other things, that an Interconnection Customer may request that Transmission Provider provide Interconnection Customer with a Provisional Generator Interconnection Agreement that limits the transfer of energy by Interconnection Customer commensurate with that allowed for Energy Resource Interconnection Service. Interconnection Customer requested Transmission Provider to provide a Provisional Generator Interconnection Agreement for limited operation at the discretion of Transmission Provider based upon the results of available studies (by Interconnection Customer and by Transmission Provider).

A Provisional Interconnection Study, the results of which are posted on the confidential portion of the Transmission Provider's internet website, was performed by Transmission Provider in order to confirm the facilities that are required for provisional Interconnection Service and to require them to be in place prior to commencement of service under the GIA.

Interconnection Customer represents that the Interconnection Customer facilities (including Network Upgrades, Interconnection Facilities, Distribution Upgrades, System Protection Upgrades and/or Generator Upgrades) that are necessary to commence provisional Interconnection Service and meet the requirements of NERC, or any applicable regional entity for the interconnection of a new generator are in place prior to the commencement of generation from the Generating Facility and will remain in place during the term of the service. The requisite Interconnection Studies were performed for the Generating Facility. Interconnection Customer shall meet any additional requirements (including reactive power requirements) pursuant to the results of applicable future Interconnection System Impact Studies. Until such time as the applicable Interconnection Studies and any identified facilities are completed, the output of the Generating Facility will operate within the output limit prescribed in a future, if

applicable, operating guide.

The maximum permissible output of the Generating Facility under Appendix A will be updated by Transmission Provider on a quarterly basis, determined in accordance with Section 11.5 of the GIP, by finding the transfer limit of energy commensurate with the analysis for Energy Resource Interconnection Service (“ERIS”). This study shall be performed assuming the system topology represented by the base cases used to calculate Available Flowgate Capability, as described in Attachment C of the Tariff, with dispatch and optimization algorithms posted on the MISO internet site and operation above those limits will be deemed as unauthorized use of the Transmission System and subject to provisions in the Tariff surrounding that use.

#### **Use of interim operating guide**

Implementation of interim operating guide, if applicable, will constitute an interim solution that will permit Interconnection Customer to operate the Generating Facility under conditional Interconnection Service until planned Network Upgrades are constructed. Any interim operating guide will be subject to the approval of Transmission Owner and Transmission Provider. Minimum requirements for an interim operating guide are as indicated below.

- \* Transmission Operator will have control of breaker(s) dedicated to the Generating Facility and will be able to trip the Interconnection Customer’s Generating Facility
- \* Protection schemes must be tested and operative
- \* Interconnection Customer will provide continuous communication capability with the Generator Operator
- \* Interconnection Customer and the owner of the Existing Generating Facility will enter into an operating agreement or similar agreement which designates, among other things, the responsibilities and authorities of each of the parties and shall be subject to the acceptance of Transmission Provider and Transmission Owner.
- \* A termination date consistent with completion of construction of Network Upgrades will be included as part of all operating guides accepted by Transmission Owner and Transmission

Provider.

Interconnection Customer assumes all risks and liabilities with respect to changes, which may impact the Generator Interconnection Agreement including, but not limited to, change in output limits and responsibilities for future Network Upgrade and cost responsibilities that have not yet been identified on the direct connect Transmission System as well as all affected Transmission, Distribution or Generation System(s) including non-Transmission Provider Systems. Such upgrades will be determined pursuant to the Tariff and Policies in effect at the time of the Interconnection Studies.

**Appendix I to GIA**  
**Requirements Applicable to Surplus Interconnection Service**

Where this GIA provides for Surplus Interconnection Service, Interconnection Customer acknowledges, agrees to, and will be required to operate under the following conditions:

- 1) The combined Real-Time Offers, including Energy and Operating Reserves, of the Generating Facility and the Existing Generating Facility with which Interconnection Customer has an executed Energy Displacement Agreement must be less than or equal to Interconnection Service limit (MW, MVAR, MVA output) provided in Exhibit I-1 (Monitoring and Consent Agreement) (hereinafter, “Interconnection Service limit”).

In the event that the sum of the simultaneous energy output of the Surplus Interconnection Service Generating Facility and the Existing Generating Facility exceeds such Interconnection Service limit, MISO reserves the right to curtail and/or disconnect the Generating Facility immediately.

In the event that the sum of the emergency and/or economic maximum offer limits of the Generating Facility and the Existing Generating Facility exceeds the Interconnection Service limit, MISO reserves the right to curtail and/or disconnect the Generating Facility immediately.

- 2) The total MW, MVAR, MVA output at the Point of Interconnection resulting from the combined output of the Generating Facility with Surplus Interconnection Service and the Existing Generating Facility with which Interconnection Customer has an executed Energy Displacement Agreement shall not at any time exceed the Interconnection Service limit.
- 3) The Existing Generating Facility with which Interconnection Customer has an executed Energy Displacement Agreement is not relieved of any applicable requirements under the RAR of the Tariff.

- 4) The Interconnection Customer shall submit to the Transmission Provider a report by the seventh Calendar Day of each month showing the prior month's output, by 15 minute increment, the combined real-time offers and cleared energy injection. The Existing Generating Facility and the Interconnection Customer shall cooperate consistent with other provisions in the Tariff to the extent necessary to ensure accuracy of the report. Transmission Provider shall provide a template for this report.

**Exhibit I-1 (Completed Monitoring and Consent Agreement - Appendix 11 of the GIP)**

**Exhibit I-2 (Completed Energy Displacement Agreement - Appendix 12 of the GIP)**

TAB C



**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**Midcontinent Independent System                    )  
Operator, Inc.                                            )**                   **Docket No. ER25-\_\_\_\_-000**

**PREPARED DIRECT TESTIMONY OF ANDREW WITMEIER  
ON BEHALF OF THE MIDCONTINENT INDEPENDENT  
SYSTEM OPERATOR, INC.**

**June 6, 2025**

UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

Midcontinent Independent System                    )  
Operator, Inc.                                            )                   Docket No. ER25-\_\_\_\_-000

PREPARED DIRECT TESTIMONY OF  
ANDREW WITMEIER

1           **I.       PROFESSIONAL BACKGROUND AND QUALIFICATIONS**

2   **Q.     PLEASE STATE YOUR NAME, CURRENT POSITION AND YOUR BUSINESS**  
3       **ADDRESS.**

4   **A.**    My name is Andrew Witmeier. I am the Director of Resource Utilization for the  
5           Midcontinent Independent System Operator, Inc. (“MISO”). My business address is: 720  
6           City Center Drive, Carmel, IN 46032-7574.

7   **Q.     PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**  
8       **PROFESSIONAL EXPERIENCE.**

9   **A.**    I joined MISO in 2003 after graduating from Purdue University with a bachelor's degree  
10          in electrical engineering. I spent the first 17 years of my career in various positions in  
11          MISO Operations. During that time, I worked as a North American Electric Reliability  
12          Corporation (“NERC”) certified system operator in scheduling, engineering, and as a  
13          reliability coordinator. I also led several groups within MISO Operations as a manager in  
14          engineering, reliability coordination, and seams administration. In January 2020, I was  
15          appointed to my current position where I have remained for the past five years.

1   **Q.     PLEASE DESCRIBE YOUR JOB RESPONSIBILITIES WITH MISO AS THEY**  
2       **RELATE TO THIS FILING.**

3   **A.**    As the Director of Resource Utilization, I am responsible for the administration of MISO’s  
4       Generator Interconnection Procedures (“GIP”), which are set forth in Attachment X of  
5       MISO’s Open Access Transmission, Energy and Operating Reserve Markets Tariff  
6       (“Tariff” or “MISO Tariff”).<sup>1</sup> I oversee MISO’s generation interconnection queue,  
7       including the negotiation and execution of Generator Interconnection Agreements  
8       (“GIAs”), which are based on MISO’s *pro forma* GIA set forth in Appendix 6 of the GIP. I  
9       also oversee the group that manages and processes generation retirement, generator  
10      replacement, and Surplus Interconnection Service requests for generators connected to  
11      MISO’s Transmission System. I have been directly involved in the preparation and  
12      development of the current proposals.

13   **Q.     HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN REGULATORY**  
14       **PROCEEDINGS?**

15   **A.**    Yes. I have provided testimony in a number of proceedings before the Commission. The  
16       most recent testimonies are as follows:

- 17       •     In March 2025, I provided testimony in Docket No. ER25-1674-000 to support  
18              MISO’s original Expedited Resource Addition Study (“ERAS”) proposal.
- 19       •     In November 2024, I provided testimony in Docket No. ER25-507-000 to support  
20              MISO’s generator interconnection cap proposal.

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<sup>1</sup> Unless otherwise indicated in my Testimony, all capitalized terms used herein have the meaning as set forth in the Tariff or the proposed Tariff revisions, as applicable.

- 1       •     In August 2024, I provided testimonies supporting the JOA and MISO Tariff  
2           revisions implementing the JTIQ initiative in Docket No. ER24-2797-000 and  
3           ER24-2871-000.
- 4       •     In November 2023, I sponsored testimony in Docket Nos. ER24-340-000 and  
5           ER24-341-000 supporting a package of reforms of MISO’s generator  
6           interconnection process.
- 7       •     In December 2021, I submitted testimony in Docket No. ER22-661-000 on issues  
8           relating to MISO’s generator queue reform and resource utilization.

9       **II.     OVERVIEW AND PURPOSE OF TESTIMONY**

10   **Q.     ARE YOU SUBMITTING YOUR TESTIMONY ON BEHALF OF MISO?**

11   **A.     Yes.**

12   **Q.     WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

13   **A.     My testimony supports the updated Tariff revisions that MISO is submitting in this docket**  
14           to file certain urgent improvements to the GIP. MISO is proposing the creation of a new  
15           process—the Expedited Resource Addition Study (“ERAS”)—to facilitate the addition of  
16           projects to address certain near-term resource adequacy and reliability needs. This process  
17           will be separate from MISO’s generator interconnection queue process, which is referred  
18           to as the Definitive Planning Phase (“DPP”) process. As further discussed below, while  
19           MISO has been actively improving the efficiency of its generator interconnection queue  
20           with recent reforms, it will take several years for the impact of these changes to be fully  
21           realized and for MISO to reduce queue processing time to an approximately one-year  
22           timeframe. MISO has refined its original ERAS process, which will be more fully  
23           explained and addressed in my testimony.

**Q. CAN YOU BRIEFLY EXPLAIN THE REFINEMENTS THAT WERE MADE TO MISO’S ORIGINAL ERAS PROPOSAL?**

**A.** Yes. At a high level, MISO is now implementing a cap on ERAS projects to 68 total with carve outs for a maximum of 8 projects to serve retail choice load and a maximum of 10 projects from Independent Power Producers (“IPPs”). MISO is also implementing a requirement to only study 10 projects per ERAS Quarterly Study cycle.<sup>2</sup> In addition to the cap, MISO is changing the Relevant Electric Retail Rate Authority (“RERRA”) notification requirement to a RERRA verification so that the ERAS project will be more closely targeted to a resource adequacy and/or reliability need in the RERRA’s footprint. MISO is also limiting proposed ERAS project’s interconnection service to 150% of the identified MW need, is requiring the project to be in the same Local Resource Zone (“LRZ”) as the load need it is addressing (unless the project applicant can demonstrate that the use of a Generating Facility not in the same LRZ was included in a resource filing or other submission made to the relevant RERRA), and is now requiring additional information in the ERAS Interconnection Request application. Finally, MISO has proposed tariff language to incorporate the retail states into the ERAS process. In the rest of my testimony, I go into further detail and background on these refinements.

**Q. HOW DO THESE FILINGS RELATE TO MISO’S COMPLIANCE OBLIGATIONS UNDER ORDER NO. 2023/2023-A?**

**A.** At the time of this submission, MISO submitted its Order No. 2023-2023-A compliance filings pursuant to the independent entity variation requirements set forth in Order Nos.

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<sup>2</sup> MISO is requiring that projects proposed by IPPs must be with entities other than Load Serving Entities (“LSEs”).

2003 and 2023.<sup>3</sup> If the Commission accepts the proposed revisions, they will become part of the MISO Tariff.

**Q. IS MISO REQUESTING AN INDIVIDUAL ENTITY VARIATION?**

**A.** Yes. ERAS is a new and temporary process that is intended to exist separately from MISO's DPP cluster-based queue process. Unlike the DPP, ERAS will not employ a 3-phase process, cluster studies, use the same withdrawal penalties, or employ many of the other mechanisms associated with the DPP process. Given the unique nature of ERAS, the limited timeframe for which it will be in effect, and the comparatively small number of projects that MISO expects to process through ERAS, MISO submits ERAS as a necessary independent entity variation to MISO's compliance with Order No. 2023-2023-A.

Because ERAS is a standalone process, it should be viewed as one large independent entity variation with a defined rule set rather than individual independent entity variations for the numerous differences between the cluster-based process outlined in Order 2023-2023-A and ERAS serial-based study approach. This said, I briefly describe some of the more salient differences below and explain why these are appropriate.

- Serial study: Studying ERAS Interconnection Requests individually in serial fashion will increase the speed of analysis, remove uncertainty caused by other requests being included in those analyses, and allows Interconnection Customers to better replicate study results prior to submission. Cluster studies are more complex with increased uncertainty due to

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<sup>3</sup> See *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, FERC Stats. & Regs. ¶ 31,146 (2003), *order on reh'g*, Order No. 2003-A, FERC Stats. & Regs. ¶ 31,160, *order on reh'g*, Order No. 2003-B, FERC Stats. & Regs. ¶ 31,171 (2004), *order on reh'g*, Order No. 2003-C, FERC Stats. & Regs. ¶ 31,190 (2005), *aff'd sub nom. Nat'l Ass'n of Regulatory Util. Comm'rs v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007), *cert. denied*, 552 U.S. 1230 (2008), *Improvements to Generator Interconnection Procedures and Agreements*, 184 FERC ¶ 61,054 (2023), *order on reh'g*, Order No. 2023-A, 186 FERC ¶ 61,199 (2024).

1 withdrawal concerns since projects are reliant on those in front of them or within their  
2 cluster in the review process.

- 3 • Different timelines: Individual analysis of ERAS Interconnection Requests allows for a  
4 significantly reduced timeline to complete the process and allows for an Expedited  
5 Generator Interconnection Agreement (“EGIA”) to be executed in months rather than  
6 years.
- 7 • Higher deposits: ERAS requires higher non-refundable fees and higher milestone payments  
8 that must be made at application submission. The financial commitment required for  
9 ERAS ensures the level of certainty that the project is ready to move forward and the higher  
10 non-refundable fee is necessary to support the additional overhead MISO needs to facilitate  
11 the ERAS process.
- 12 • Financial commitment to fund Network Upgrades at EGIA: To further validate the  
13 certainty of ERAS Interconnection Requests and prevent impact on Interconnection  
14 Requests in the DPP that are relying on Network Upgrades identified in the ERAS process,  
15 ERAS Interconnection Requests will be required to fund all Network Upgrades once the  
16 EGIA is executed, even if that EGIA is later terminated.
- 17 • Enhanced Site Control: ERAS Interconnection Requests must present evidence of all  
18 necessary Site Control to ensure the project can be built on the generator site as well reach  
19 its Point of Interconnection (“POI”) on the transmission system.
- 20 • RERRA Verification: Interconnection Requests eligible to utilize ERAS must have a  
21 written verification from a RERRA, who is ultimately responsible for resource adequacy  
22 as noted in the Federal Power Act, that (i) the new, incremental load addition is valid and

is not currently included in a plan or other procedure under the RERRA’s purview or (ii) the Generating Facility will address an identified resource adequacy deficiency.

- Off-taker agreement: ERAS Interconnection Requests are required to show that the generation has an agreement with a specific load or is a Load Serving Entity (“LSE”) to ensure that generation will be utilized for known load.

**Q. IS MISO PROPOSING ANY TRANSITION PROVISIONS FOR THE ERAS FILING?**

**A.** Yes. The transition provisions are included in proposed section 5.13 of the GIP. Generally, the proposed reforms will apply only to ERAS Interconnection Requests submitted after the requested effective date of the reforms, which is August 6, 2025.

### **III. THE CURRENT MISO QUEUE AND THE ERAS PROCESS**

#### **A. ERAS is Necessary to Address Resource Adequacy and Reliability Needs**

**Q. PLEASE DESCRIBE THE CURRENT STATUS OF MISO’S GENERATOR INTERCONNECTION QUEUE.**

**A.** As of June 5, 2025, MISO’s generator interconnection queue contains 1,573 active Interconnection Requests comprising 291 GW of proposed new generator interconnection capacity. This considerable backlog of applications is spread over all five of MISO’s study regions and includes queue cycles going back to 2019. The queue size continues to be extraordinary and unprecedented—the 2023 queue cycle, the last to close in 2024, alone is 123 GW. Notably, almost 70% of the total generation capacity that entered the 2017 and 2018 queue cycles was eventually withdrawn. The remaining 30% obtained GIAs, but the actual amount of generating capacity that will be completed and energized will be less than



30% due to financial and construction challenges. Similar withdrawal rates are occurring in the later cycles as well.

**Q. DO YOU EXPECT THE CURRENT QUEUE DELAY TRENDS TO CONTINUE?**

**A.** Yes, as I noted in my previous ERAS testimony, I expect the delays to continue in the short-term, as the bulk of the recent proposed generating resources from the unprecedented queue sizes (e.g., the 2022 study cycle included over 956 application submittals totaling approximately 171 GW) continue through the MISO interconnection queue process, and only the 2023 study cycle takes advantage of the queue reforms approved in January 2024 under Docket No. ER24-341-000. Queue delays caused by restudies due to late-stage withdrawals are one of the latest issues negatively impacting Interconnection Customers' ability to timely execute a GIA. Additionally, ongoing delays to resource additions with signed interconnection agreements are caused by supply chain bottlenecks, permitting delays and commercial challenges. To further demonstrate this unprecedented backlog, MISO recently published a COD dashboard to help stakeholders determine when resources might attain commercial operation.<sup>4</sup> These resulting delays are currently interfering with the ability to plan for meeting growing resource adequacy needs and ultimately creates a major reliability concern. The ERAS proposal will help address some of these needs in the short term.

While MISO has taken targeted actions to help manage a highly active generator interconnection queue with process improvements and leveraging technology to speed up processing and studying of new interconnections requests, a temporary solution is required

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<sup>4</sup> MISO Generator Interconnection, *COD Report: Overview*, <https://app.powerbigov.us/view?r=eyJrIjoiotU1ODlhNTktMjZjZC00N2I2LWJhYjMtMDEwOGNmZDM5ODk0IiwidCI6IjYwNDA5MTViLTlkZmYtNGQ0Ny1iYjM1LTlhYzljOWE1ZGMxOCJ9&pageName=983a2cc8ca3ccf63608a>.

in the short-term to address the immediate and urgent capacity needs until the queue backlog and study timelines are reduced.

**Q. IS ERAS A SEPARATE PROCESS FROM MISO’S QUEUE?**

**A.** Yes. ERAS is not a part of MISO’s Definitive Planning Phase (“DPP”) process. ERAS is also not another interconnection queue that will supplant the generator interconnection process. MISO understands the concerns that ERAS is enabling queue jumping but ERAS is a unique and separate process from the DPP process that is limited in size and scope. The process has extremely stringent eligibility requirements that will limit the projects that can participate in it to those with commercial viability, RERRA verification, and the ability to come online in the next few years. MISO sees ERAS as a complementary process to the generator interconnection queue and a solution that will assist in addressing resource adequacy and reliability needs in the next few years.

**Q. PLEASE DESCRIBE WHY ERAS IS NECESSARY.**

**A.** There is a growing critical reliability challenge facing the industry, which has been documented and highlighted in various MISO and non-MISO reports. Examples of such reports include:

1. MISO Futures Report Series 1A: posted in November 2023 and utilized for Long Range Transmission Planning Tranche 2.1 portfolio.<sup>5</sup>
2. MISO’s Reliability Imperative Report: 2024 MISO Regional Resource Assessment (RRA).<sup>6</sup>

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<sup>5</sup> *MISO Futures Report, Series 1A* (November 1, 2023), available at: [https://cdn.misoenergy.org/Series1A\\_Futures\\_Report630735.pdf](https://cdn.misoenergy.org/Series1A_Futures_Report630735.pdf).

<sup>6</sup> *2024 Regional Resource Assessment, A Reliability Imperative Report* (January 2025), available at: [https://cdn.misoenergy.org/2024%20RRA%20Report\\_Final676241.pdf](https://cdn.misoenergy.org/2024%20RRA%20Report_Final676241.pdf).

- 1           3. The 2024 NERC Long-Term Reliability Assessment (LTRA).<sup>7</sup>
- 2           4. The 2024 OMS-MISO Survey: As in previous years, MISO and the
- 3           Organization of MISO States (OMS) completed a volunteer survey on resource
- 4           adequacy to identify potential future resource adequacy needs in the MISO
- 5           region.<sup>8</sup> The 2025 OMS-MISO Survey will be published on the same day as
- 6           this refined ERAS filing and indicates a similar resource adequacy and/or
- 7           reliability need trajectory.<sup>9</sup>
- 8           5. NERC’s 2025 Summer Reliability Assessment.<sup>10</sup>
- 9           6. Comments from FERC’s Technical Conference on Resource Adequacy.<sup>11</sup>

10       The reports all include the following elements:

- 11           ○ The increasingly significant challenges facing the MISO footprint in meeting state
- 12           energy goals and expectations.
- 13           ▪ The RRA report noted that the MISO members and states may need to add
- 14           capacity at 17 GW/year for 20 years.

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<sup>7</sup> *NERC 2024 Long-Term Reliability Assessment* (December 2024), available at:  
[https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC\\_Long%20Term%20Reliability%20Assessment\\_2024.pdf](https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_Long%20Term%20Reliability%20Assessment_2024.pdf).

<sup>8</sup> *2024 OMS-MISO Survey Results* (June 20, 2024), available at:  
<https://cdn.misoenergy.org/OMS%20MISO%20Survey%20Results%20Workshop%20Presentation628355.pdf>.

<sup>9</sup> *See 2025 OMS-MISO Survey Results* (Updated June 2025), available at:  
<https://cdn.misoenergy.org/20250606%20OMS%20MISO%20Survey%20Results%20Workshop%20Presentation702311.pdf>.

<sup>10</sup> 2025 Summer Reliability Assessment, North American Electric Reliability Corporation, May 2025, (“NERC 2025 Assessment”),  
[https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC\\_SRA\\_2025.pdf](https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_SRA_2025.pdf).

<sup>11</sup> Comments of Todd Ramey on behalf of MISO at 9, Docket No. AD25-7, May 28, 2025 (“MISO RA Tech Conference Comments”); Prefiled Statement of Jim Robb, President and CEO of North American Electric Reliability Corporation at 1, Docket No. AD25-7, May 19, 2025 (“NERC RA Tech Conference Comments”).

- The critical timeframe and urgent need for resources on the horizon as demand growth continues to accelerate.
  - The 2024 OMS-MISO Survey found that additional actions would be needed as soon as possible to expedite the addition of new capacity, coordinate resources for new load additions, and potentially moderate the pace of resource retirements.
  - The 2025 OMS-MISO Survey indicates that “[a]t least 3.1 GW of new resources are needed by summer 2026/27 to avoid a resource deficiency, with greater needs in future years.”<sup>12</sup> The survey also states that survey responses show “increasing load forecasts year-over-year and are close to the high end of MISO Long-Term Load Forecast.”<sup>13</sup>
- Indications that MISO is at “high risk” for meeting upcoming resource adequacy requirements.
  - The NERC LTRA report highlights that based on potential delays to generator construction, there is a potential in MISO’s footprint to see a 2.7 GW shortfall by 2029 if not earlier.

In further recognition of this issue, the Department of Energy recently introduced the GRID Modernization Initiative, which “envision[s] a fully integrated electric system from generation to transmission to load consumption ... with an emphasis on maintaining the

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<sup>12</sup> 2025 OMS-MISO Resource Adequacy Survey Results, Fact Sheet, available at: <https://cdn.misoenergy.org/2025%20OMS-MISO%20Survey%20Fact%20Sheet702641.pdf>.

<sup>13</sup> 2025 OMS-MISO Survey Results (June 6, 2025) at 10.

1 reliability and resilience of the grid.”<sup>14</sup> Concerns about resource adequacy in the MISO  
2 footprint have only increased since the publication of these reports. For instance, MISO  
3 initiated the process to redesign the Futures, last finalized in November 2023, as MISO and  
4 stakeholders have determined that the load forecasts represented in those Futures are too  
5 low. On February 28, 2025, MISO held the first of several workshops to redesign the  
6 assumptions within the Futures.<sup>15</sup>

7 In light of these industry-wide challenges, MISO realized it needed a more responsive  
8 process to work with the states to address these resource adequacy needs. The refined  
9 ERAS is intended to help maintain resource adequacy integrity within this short timeframe  
10 until it sunsets on August 31, 2027, or the completion of sixty-eight ERAS Interconnection  
11 Request studies, whichever occurs first. Ultimately, the purpose of ERAS is to provide a  
12 mechanism for addressing these resource adequacy and/or reliability needs within this short  
13 timeframe, rather than waiting until it is too late.

14 **Q. DOES MISO HAVE ADDITIONAL EVIDENCE TO SUPPORT ITS CLAIM FOR**  
15 **IMMEDIATE RESOURCE ADEQUACY NEEDS?**

16 **A.** Yes. MISO’s internal data supports the general claims about resource adequacy needs.  
17 The need for generation to serve load additions through the Expedited Project Review  
18 (“EPR”) illustrates this challenge and is addressed later in my testimony. MISO has been  
19 very vocal about communicating and presenting this impending concern. Simply glossing  
20 over this inevitable emerging need for generation only confuses the issue. Additionally,

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<sup>14</sup> *Grid Modernization Initiative*, U.S. Department of Energy (July 2024), available at:  
<https://www.energy.gov/sites/default/files/2024-12/Grid%20Modernization%20Strategy%202024.pdf>.

<sup>15</sup> MISO, *Futures Redesign Workshop* (Feb. 28, 2025), available at:  
<https://www.misoenergy.org/events/2025/futures-redesign-workshop---february-28-2025/>.

1        this issue of resource adequacy concerns has been the subject of numerous discussions  
2        throughout the MISO stakeholder process for some time now with considerable stakeholder  
3        support. MISO submitted comments prior to FERC’s Technical Conference on the  
4        challenge of resource adequacy in RTO and ISO regions, noting that “the MISO region  
5        faces resource adequacy and reliability challenges due to the changing characteristics of  
6        the electric generating fleet, insufficient transmission system infrastructure, growing  
7        pressures from extreme weather, and rapid load growth.”<sup>16</sup> MISO also recently published  
8        material from its System Planning Committee, which included updates to the Reliability  
9        Imperative.<sup>17</sup> The update noted that “[t]here is no single type of investment that will  
10       support all system needs; the necessity for near-term but large-scale transmission to support  
11       these large load additions recently came to the forefront.”<sup>18</sup> The 2025 OMS-MISO Survey  
12       will be published on the same day as this filing and its projection are in alignment with the  
13       resource adequacy and reliability needs that MISO has referenced in this filing.<sup>19</sup> The  
14       survey identifies ERAS as an in-progress initiative and one that will help address resource  
15       adequacy challenges.<sup>20</sup>

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<sup>16</sup> *Id.*

<sup>17</sup> *Reliability Imperative: Transmission Evolution*, System Planning Committee of the Board of Directors, Jun. 10, 2025, [https://cdn.misoenergy.org/20250610%20System%20Planning%20Committee%20of%20the%20BOD%20Item%2005%20Reliability%20Imperative\\_Transmission%20Evolution701586.pdf](https://cdn.misoenergy.org/20250610%20System%20Planning%20Committee%20of%20the%20BOD%20Item%2005%20Reliability%20Imperative_Transmission%20Evolution701586.pdf).

<sup>18</sup> *Id.* at 5.

<sup>19</sup> *See 2025 OMS-MISO Survey Results* (June 6, 2025).

<sup>20</sup> *Id.* at 16.

**Q. WHY WON'T ERAS PROJECTS BENEFIT FROM THE DPP QUEUE?**

**A.** As detailed in the following testimony and substantiated by multiple examples, a need exists in the near term to accelerate the interconnection process for resource adequacy and/or reliability projects that are unable to benefit from the impact of the recent MISO GIP improvements or Order No. 2023. These resource adequacy concerns are driven by the following: 1) significant growth in spot load; 2) the inability to study new necessary resources immediately upon entering the queue; 3) the accelerated retirement of generation resources; 4) the ongoing delays to resource additions with signed interconnection agreements due to supply chain bottlenecks, permitting delays, and commercial challenges; and 5) the continued large volumes of Generator Interconnection Queue requests and accumulating backlog. The increasing impact of these factors requires urgent improvements to the current GIP to ensure that MISO can meet the challenge. Accepting the proposed ERAS revisions will contribute to ensuring that MISO has sufficient new resources to meet these impending challenges in the coming years.

**Q. WHY ISN'T THE CURRENT QUEUE SUFFICIENT TO ADDRESS THESE RESOURCE ADEQUACY NEEDS?**

**A.** MISO successfully implemented several queue reforms improving various aspects of the generator interconnection queue or DPP process. Despite these efficiency updates, MISO's interconnection queue continues to experience significant delays. Due to the aforementioned delays in bringing resources online, the current interconnection queue jeopardizes the short-term availability of resource adequacy projects that are stuck in the queue or are yet to be submitted into the queue. The current DPP queue process will not ensure a timely executed GIA with known Network Upgrades until the backlog is cleared

1 and a new cycle can be processed with a yearly cadence. MISO is proposing the ERAS  
2 process to fill the gap in the short-term by expediting the approval of new generation  
3 needed to address resource adequacy and reliability needs.

4 **B. ERAS Projects Will Not Harm DPP Queue Projects**

5 **Q. WILL ACTIVE DPP PROJECTS STILL BE ABLE TO TRANSFER TO THE ERAS**  
6 **PROCESS?**

7 **A.** Yes. If the projects meet the eligibility requirements to enter the ERAS interconnection  
8 process, DPP projects in active DPP cycles at or before Decision Point 2 (anticipated only  
9 2022 and 2023 cycles) may transfer to the ERAS process. MISO will not allow  
10 Interconnection Requests to transfer from the existing interconnection queue after Decision  
11 Point 2 to avoid the Phase 3 restudies due to late withdrawals, which contribute to ongoing  
12 queue delays. If an Interconnection Request is beyond Decision Point 2, then it can still  
13 drop out of the DPP process; however, it cannot enter ERAS until a year has passed since  
14 the withdrawal. This limitation was implemented to maintain the integrity of the DPP  
15 process. Allowing active projects in the current queue to transfer to ERAS process also  
16 enables the faster completion of studies for projects that can address resource adequacy  
17 and/or reliability needs in the short term.

18 **Q. DOES MISO KNOW OF ANY EXISTING PROJECTS IN THE QUEUE THAT**  
19 **PLAN TO TRANSFER TO ERAS?**

20 **A.** Yes. MISO is aware of several projects that are interested in participating in ERAS and  
21 can meet the eligibility requirements. Upon transferring from the DPP process to ERAS,  
22 the projects will be subject to all existing withdrawal penalties and/or harm calculations  
23 stated in the Tariff. Based on stakeholder feedback, MISO determined that projects



1 withdrawing from the DPP to enter ERAS should not provide undue impact on  
2 Interconnection Requests remaining in the DPP process. That is why withdrawals can only  
3 occur at the existing off ramps (i.e. Decision Point 1 and/or Decision Point 2) and that they  
4 should be subject to any Automatic Withdrawal Penalty or harm calculation.

5 **Q. WHY ISN'T MISO EVALUATING PROJECTS IN THE DPP QUEUE TO**  
6 **DETERMINE WHETHER THEY CAN ADDRESS RESOURCE ADEQUACY**  
7 **AND/OR RELIABILITY NEEDS?**

8 **A.** MISO does not believe it is appropriate for it to decide which generation projects address  
9 an identified need. MISO is not the resource planner. Ultimately it is the states/RERRAs  
10 processes that determine which generation is utilized to meet a resource adequacy and/or  
11 reliability need. ERAS provides a means to determine Network Upgrades necessary to aid  
12 the states/RERRAs in their determination processes by providing a timely process to study  
13 certain Interconnection Requests that the RERRA has acknowledged. Without ERAS, the  
14 states/RERRAs need to make their determination after an Interconnection Request is out  
15 of the DPP process, which may be too late, or with unknown or incomplete transmission  
16 upgrade costs.

17 **Q. WILL ERAS TAKE NECESSARY RESOURCES AWAY FROM THE DPP**  
18 **QUEUE?**

19 **A.** No. ERAS will not take away resources from the DPP Queue as MISO is requiring  
20 significantly increased financial commitments from ERAS participants. First, the D1  
21 payment is \$100,000 and is non-refundable. The funds from this payment will provide the  
22 additional financial resources needed to help MISO manage the ERAS process. These  
23 resources may include additional software tools and enhancements to process ERAS.

1 Second, MISO has committed to hiring additional personnel or contractors as needed to  
2 help manage the ERAS requests. MISO is actively monitoring the workload and need for  
3 additional support to effectively process both ERAS and the DPP queue. The cap on 10  
4 projects per ERAS cycle will also make MISO's workload and resource needs easier to  
5 forecast and manage. While MISO believes that it has sufficient resources to manage  
6 ERAS even without the project cap, MISO recognizes that the project cap will further assist  
7 it in efficiently managing both the ERAS and DPP processes. No resources or staff time  
8 will be diverted from the DPP queue to ERAS or vice versa.

9 **Q. DO YOU AGREE WITH CLAIMS THAT ERAS WILL REDUCE THE**  
10 **TRANSMISSION CAPACITY HEADROOM AVAILABLE TO PROJECTS IN**  
11 **THE DPP QUEUE?**

12 **A.** No. As I previously explained in my testimony, ERAS projects will ultimately be studied  
13 on a different MTEP base case than projects currently in the MISO queue. An ERAS  
14 project that is studied in September 2025 will use the MTEP 2024 base case that is  
15 supplemented with changes since that base case was built with both approved EPR projects  
16 and new generators with signed GIAs. The 2022 DPP cycle that kicked off in March 2023  
17 used the 2022 base case from when the projects joined the queue. Those DPP projects will  
18 have access to the headroom existing in the 2022 base case, which is not impacted at all by  
19 the ERAS process.

20 **Q. WILL ERAS PROJECTS SHIFT OR INCREASE UPGRADE COSTS TO**  
21 **CUSTOMERS CURRENTLY IN THE DPP QUEUE?**

22 **A.** No. This speaks to a misunderstanding of how MISO will create the model for the serially  
23 studied ERAS projects. In building the model for new ERAS interconnection projects,

MISO will rely on the latest MTEP base case, including any recently approved EPR projects. In the normal DPP process, the base case is never updated once the study process is kicked off except for changes due to projects withdrawing at the Decision Points or generator retirements, which limits the Network Upgrades to only those introduced as part of the ERAS project.

**Q. WHY ARE PHASE 3 PROJECTS NOT INCLUDED IN THE BASE CASE FOR ERAS?**

**A.** MISO does not include Phase 3 projects in the base case for any study process because doing so would require it to deviate from its standard practice. MISO only includes projects that have obtained a GIA in the subsequent base model. MISO does not want to assume that these Phase 3 projects will obtain a GIA, then include them in the model, only to be proven wrong and negatively impact the base model. MISO does not consider projects to be “real” until they have obtained a GIA, at which point they are included in the next base case model.

**Q. WHY ARE LATE-STAGE DPP PROJECTS PROHIBITED FROM PARTICIPATING IN ERAS?**

**A.** Late-stage DPP projects are prohibited from participating in ERAS to prevent negative impacts on the DPP queue. To maintain the integrity of the queue, MISO must protect the projects already in the DPP process. Allowing late-stage DPP projects to transfer into ERAS would require their removal from the DPP queue, triggering re-studies. These re-studies would cause delays and adversely affect the remaining projects in the queue.

**Q. IN LIGHT OF THE RECENT QUEUE REFORMS, WHY IS IT NECESSARY TO IMPLEMENT ERAS NOW?**

**A.** The recent queue reforms are essential and will result in beneficial changes to the DPP queue, but on a longer time frame than is needed to address current resource adequacy and reliability needs. MISO views the refined ERAS process as complementary to the recent queue reforms but argues that it addresses a more imminent problem. ERAS is not redundant to the existing DPP queue as its purpose and structure is completely different. Several protestors to the original ERAS filing suggested that the SUGAR Software that MISO has been working to implement will solve the problem. However, these claims fail to consider that MISO is currently implementing the SUGAR software only for increasing the speed of the Phase 1 Study of the MISO DPP process, not for the more in-depth Phases 2 and Phase 3, portions. MISO anticipates that it will utilize SUGAR for the later phases, but the software as currently developed is not designed to run the Phase 2 or Phase 3 studies.

**Q WHY SHOULDN'T MISO UTILIZE PROVISIONAL GIAs TO ADDRESS THE RESOURCE ADEQUACY AND/OR RELIABILITY NEEDS?**

**A.** A Provisional Generator Interconnection Agreement or PGIA is another tool for Interconnection Customers to achieve a timely interconnection agreement; however, it is insufficient to address the problem on the scale or in the time frame that is needed. Provisional interconnection service, while available for interconnection projects to request as soon as they enter the DPP process, only provides for limited operation, and is conditional on DPP studies for full deliverability that 1) may not be available to recognize the new capacity and 2) can still take several years to finalize. Having a PGIA poses a

substantial risk on generator projects depending on the projects in the queue that may never go commercial or may not be built due to not having an off-taker or a load to serve. Some of the benefits of PGIAs such as increased financial commitments and an expedited timeframe to getting an EGIA were incorporated into the ERAS process. Ultimately, only the ERAS process will ensure that all the Network Upgrades on the MISO transmission system that are necessary to provide deliverability across the system are identified by the time the EGIA is executed.

**V. THE REFINED ERAS PROPOSAL**

**Q. WHY IS MISO REFINING THE ERAS PROCESS?**

**A.** Following the Commission's review of MISO's original ERAS process, it rejected MISO's proposal and made several recommendations for how to ameliorate the issues it identified in the original ERAS proposal. Thanks to this guidance from the Commission, MISO has changed several aspects of its original proposal and is now seeking Commission approval of its refined ERAS process. As explained earlier in my testimony, ERAS is MISO's solution to the near-term resource adequacy and reliability needs within its footprint. Due to unforeseen circumstances related to unexpected and dramatic load growth, MISO needs to implement a process that can enable the completion of projects addressing resource adequacy and/or reliability needs in the next few years. ERAS is not another interconnection queue; rather, it is a separate process that the states may utilize to address short-term resource adequacy and/or reliability needs.

**Q. HOW WAS THIS NEW ERAS PROPOSAL DEVELOPED?**

**A.** Following the Commission's Order on MISO's original ERAS filing and other stakeholder feedback, MISO worked quickly to refine its Expedited Resource Addition Study to

1 address the concerns identified by the Commission and to propose a framework for the  
2 accelerated study of generation projects that can address urgent resource adequacy and  
3 reliability needs in the near term. With the Commission's guidance, MISO made critical  
4 changes to its original ERAS proposal including adding a total project cap with carve outs  
5 for retail states and independent power producers. MISO has also added several  
6 requirements to establish a stronger connection between the proposed ERAS projects, and  
7 the resource adequacy needs that the projects will be addressing.

8 MISO developed this process and the accompanying Tariff language based on its resolve  
9 to address its urgent short-term resource adequacy needs and has provided extensive  
10 opportunities for all interested parties to comment during the stakeholder process. It should  
11 be noted though that these issues are complex and there is no set of reforms that will  
12 flawlessly meet the needs of every stakeholder affected by these updates, but the final  
13 ERAS proposal that MISO is submitting today incorporates many of the comments and  
14 recommendations we received through this process.

15 **Q. PLEASE DESCRIBE THE STAKEHOLDER PROCESS USED TO DEVELOP**  
16 **THIS PROPOSAL.**

17 **A.** MISO engaged in an extensive stakeholder process throughout the development of the  
18 original ERAS proposal. MISO obtained feedback through the Planning Advisory  
19 Committee (PAC), conducted dozens of calls with stakeholders across the MISO sectors,  
20 and received multiple rounds of both formal and informal written feedback. During the  
21 stakeholder process, MISO considered the advantages and disadvantages of multiple  
22 approaches for addressing the identified challenges and risks, collaborating with

1 stakeholders on identifying areas where flexibility could be increased. MISO revised its  
2 initial proposal considerably, incorporating the input received.

3 The key milestones of the original ERAS proposal stakeholder process were as follows:

- 4 • November 13, 2024: MISO presented an initial ERAS proposal to the PAC and  
5 requested written formal feedback from stakeholders from this meeting be included  
6 with feedback from the November 18<sup>th</sup> workshop.
- 7 • November 18, 2024: MISO and stakeholders participated in a special ERAS-  
8 specific workshop in which the parties continued to discuss ERAS details. MISO  
9 sought feedback on the ERAS proposal.
- 10 • December 6, 2024: MISO and stakeholders participated in a second ERAS-specific  
11 workshop in which the parties continued to discuss ERAS details. MISO sought  
12 written formal feedback on the updated proposal.
- 13 • January 22, 2025: MISO presented an updated ERAS proposal at the PAC.
- 14 • February 19, 2025: MISO posted proposed tariff redlines, presented an updated  
15 ERAS proposal, and sought written formal feedback at the PAC.
- 16 • March 7, 2025: MISO posted updated proposed tariff redlines and presented the  
17 final ERAS proposal at a special PAC meeting scheduled to review the final details  
18 of the ERAS proposal.

19 The key milestones for the refined ERAS proposal stakeholder process were as follows:

- May 28, 2025: MISO presented its refined ERAS proposal at the PAC.<sup>21</sup> MISO received feedback from this presentation through its informal feedback tool.<sup>22</sup>

- MISO conducted dozens of calls with stakeholders across the MISO sectors.

**Q. WHAT WAS MISO’S RESPONSE TO CONCERNS AND RECOMMENDATIONS FROM STAKEHOLDERS ON MISO’S ORIGINAL ERAS PROPOSAL?**

- A.** MISO supported many of the concerns and objectives identified by the stakeholders while crafting the original ERAS proposal and was committed to working with stakeholders to incorporate elements of their proposals to meet those objectives. MISO also considered the concerns and recommendations of stakeholders following the Commission’s rejection of its original ERAS proposal. The figure below demonstrates how MISO has worked with stakeholders to address concerns related to ERAS implementation and how its revised proposal responds to these concerns and Commission guidance.

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<sup>21</sup> See *Expedited Resource Addition Study (ERAS) Next Steps* (May 28, 2025), [https://cdn.misoenergy.org/20250528%20PAC%20Item%2008%20Expedited%20Resource%20Addition%20Study%20\(ERAS\)%20Next%20Steps%20\(PAC-2023-1\)699836.pdf](https://cdn.misoenergy.org/20250528%20PAC%20Item%2008%20Expedited%20Resource%20Addition%20Study%20(ERAS)%20Next%20Steps%20(PAC-2023-1)699836.pdf).

<sup>22</sup> *Informal Feedback (2025)*, MISO, available at: <https://www.misoenergy.org/engage/stakeholder-feedback/2025/informal-feedback-2025/>.



Figure 1: ERAS Proposal Changes from First Iteration

|                           | Where we began                            | Original ERAS filing                                                                                                                                                                                                                                                                                                                    | Refined ERAS filing                                                                                                                                                                                                                                                                                                                         |
|---------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cap                       | N/A                                       | N/A                                                                                                                                                                                                                                                                                                                                     | No more than 10 projects studied per quarter and no more than 68 projects studied overall with an 8 project carve out for restructured states and a 10 project carve out for IPPs with agreements with entities other than LSEs                                                                                                             |
| Applicants                | Load Serving Entities                     | LSEs, IPPs, and DPP transfer projects meeting all requirements                                                                                                                                                                                                                                                                          | No change                                                                                                                                                                                                                                                                                                                                   |
| Process timeline          | Project studied and GIA issued in 60 days | Quarterly cadence following established MISO timelines, receiving GIA in ~90 days                                                                                                                                                                                                                                                       | No change                                                                                                                                                                                                                                                                                                                                   |
| Required documentation    | RERRA acknowledgement                     | RERRA acknowledgement and one of the following: <ul style="list-style-type: none"> <li>LSE acknowledgment to self-supply</li> <li>PPA between IC and load or its LSE</li> <li>Build-Own-Transfer Agreement</li> <li>Other agreement between applicant and load, or its LSE, stating project will meet RA or reliability need</li> </ul> | RERRA <b>verification</b> and one of the following: <ul style="list-style-type: none"> <li>LSE acknowledgment to self-supply</li> <li>PPA between IC and load or its LSE</li> <li>Build-Own-Transfer Agreement</li> <li>Other agreement between applicant and load, or its LSE, stating project will meet RA or reliability need</li> </ul> |
| Identification of need    | N/A                                       | Description of need in ERAS application                                                                                                                                                                                                                                                                                                 | IC must identify specific load addition and/or RA deficiency the project will address (MW value band, approximate location, etc.) and this information will be made public                                                                                                                                                                  |
| Locational requirement    | N/A                                       | N/A                                                                                                                                                                                                                                                                                                                                     | Project and RA and/or reliability need must be within the same Local Resource Zone                                                                                                                                                                                                                                                          |
| Size requirement          | N/A                                       | N/A                                                                                                                                                                                                                                                                                                                                     | Interconnection Service must not exceed 150% of the identified MW need                                                                                                                                                                                                                                                                      |
| Commercial Operation Date | Expected COD with 2-5 years               | 2025/26 applicants: 3 years from submission plus 3-year grace period;<br>2027/28 applicants: 12/31/2028 COD plus 3-year grace period                                                                                                                                                                                                    | All applicants must have a COD within 3 years of submission plus a 3-year grace period                                                                                                                                                                                                                                                      |
| Penalties                 | Requested feedback after first PAC        | Projects transferring from DPP process will be subject existing tariff language (e.g. AWP and Harm Calculations)                                                                                                                                                                                                                        | No change                                                                                                                                                                                                                                                                                                                                   |
| Sunset                    | 2028 / 2029                               | 12/31/2028 or on the completion date of the 2027 DPP queue cycle, whichever first                                                                                                                                                                                                                                                       | ERAS will sunset at the earlier of the completion of the sixty-eighth ERAS study or on August 31, 2027                                                                                                                                                                                                                                      |

Q. DID MISO CONSIDER ANY ALTERNATIVE ERAS PROPOSALS?

A. Yes. During the stakeholder process in January and February of 2025, two parties submitted alternative ERAS proposals in the PAC meetings. Those proposals focused on improvements to the existing queue process and many suggestions were not relevant to the serial approach of ERAS as MISO has envisioned it. MISO believes the feedback was extremely beneficial but focused on improvements that MISO can make to its current cluster process and not the ERAS process. The refined ERAS proposal does align with a number of items from the Developer Coalition Counterproposal (February 12, 2025),

1 including limiting the number of ERAS projects allowed to participate and ensuring those  
2 projects are tied to a specific need.<sup>23</sup>

3 The proposals also recommended that MISO utilize a scoring system to evaluate ERAS  
4 Interconnection Requests. MISO has not adopted this recommendation because the states  
5 have authority over resource adequacy needs and MISO should not be ranking or selecting  
6 ERAS Interconnection Requests. It is not appropriate for MISO to be second guessing a  
7 RERRA determination that a project should be studied in ERAS.

8 **Q. PLEASE DESCRIBE THE CONCERNS RAISED BY THE COMMISSION’S**  
9 **ORDER AND HOW MISO IS RESPONDING TO THEM.**

10 **A.** The Commission raised numerous concerns when addressing MISO’s original ERAS  
11 proposal. The Commission found that MISO’s ERAS proposal was not “a just and  
12 reasonable and not unduly discriminatory or preferential approach for addressing MISO’s  
13 stated resource adequacy and reliability needs.”<sup>24</sup> The Commission identified two main  
14 concerns with ERAS: (1) there was “no limit on the number of projects that could be  
15 entered into the ERAS process,”<sup>25</sup> and (2) “the proposal does not sufficiently describe how  
16 the ERAS process is sufficiently targeted to study only interconnection requests needed to  
17 meet the anticipated shortfall in generating capacity described by MISO.”<sup>26</sup> The  
18 Commission also recognized that it was “appropriate for RERRAs to communicate to

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<sup>23</sup> See *Developer Coalition: ERAS Counter Proposal* (February 12, 2025) <https://cdn.misoenergy.org/20250219%20PAC%20Item%2008%20ERAS%20Alternative%20from%20Developer%20Coalition679607.pdf>.

<sup>24</sup> See *Midcontinent Independent System Operator, Inc.*, 191 FERC ¶ 61,131 at P 197 (2025) (“ERAS Order”).

<sup>25</sup> *Id.* at P 199.

<sup>26</sup> *Id.* at P 201.

1 MISO their resource adequacy and reliability needs, as well as their support for including  
2 interconnection requests in the ERAS process, to ensure that the RERRA's needs are met  
3 in a timely fashion."<sup>27</sup> Each of the Commissioners also filed individual statements urging  
4 MISO to revise and refile its ERAS proposal.<sup>28</sup>

5 MISO is extremely grateful for the Commission's guidance on how to better craft its ERAS  
6 proposal and has worked swiftly to develop a refined ERAS process that addressed the  
7 Commission's concerns. MISO is now proposing a refined ERAS process that can be  
8 implemented by September 2, 2025, to quickly address the looming resource adequacy and  
9 reliability needs that it highlighted in its original ERAS filing.

10 **A. Implementing an ERAS Cap**

11 **Q. WHY IS MISO IMPLEMENTING A CAP ON ERAS PROJECTS?**

12 **A.** After receiving feedback from stakeholders and guidance from the Commission in its  
13 ERAS order, MISO is implementing a cap on the total number of projects that can  
14 participate in ERAS. The Commission was concerned that MISO's original ERAS  
15 proposal was unlimited in size and asked that MISO place additional guardrails around  
16 ERAS.<sup>29</sup> MISO is now proposing to cap the total number of ERAS projects studied to 68  
17 Interconnection Requests. In addition, MISO is creating a carve out of a maximum of 8  
18 Interconnection Requests (of the total 68) that may be submitted to serve retail choice load  
19 and a carve out of a maximum of 10 Interconnection Requests (of the total 68) that may be

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<sup>27</sup> *Id.* at P 203.

<sup>28</sup> ERAS Order at P 3 (Christie, Comm'r, dissenting); P 6 (Rosner, Comm'r, concurring); P 8 (See, Comm'r, concurring).

<sup>29</sup> ERAS Order at P 203.

submitted by IPPs with agreements with entities other than LSEs. The remaining 50 Interconnection Requests may be utilized by the remaining states and developers for non-retail states. MISO recognizes that PJM's Reliability Resource Initiative similarly capped its program at 50 projects and MISO is providing additional carve outs for certain groups that would otherwise have difficulty participating in ERAS. The Commission has previously recognized that an appropriately structured cap used in the interconnection processes can be consistent with open access principles.<sup>30</sup>

**Q. IS THERE A LIMIT ON THE NUMBER OF ERAS PROJECTS STUDIED PER CYCLE?**

**A.** Yes. MISO is also going to limit the number of projects studied *per* ERAS quarterly study cycle to 10 projects no matter who submits them. MISO believes that 10 projects per study cycle is a manageable number of projects for its team to study on a quarterly basis. This will allow MISO to spread the number of projects over a longer period of time, which will also help with the expedited review and management of MISO's internal resources to serve ERAS.

**Q. HOW WILL THE 10 PROJECTS BE SELECTED FOR THE STUDY?**

**A.** Once the ERAS process is approved, MISO will process the ERAS Interconnection Requests using a serial "first-come, first-served" approach based on the date and time the application was submitted. The first ten projects to submit applications to be studied in ERAS will be tentatively selected until MISO has finalized its screening process of all ten projects to ensure that they (1) meet the ERAS eligibility requirements, and (2) are not

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<sup>30</sup> *Id.*

geographically located near another project in the group or impacting the same constraints. After the ten projects in a cycle are finalized, the remaining projects that applied in the cycle will be deferred to the next available ERAS cycle in order of submission time. Since only ten projects will be studied at a time, serial review of the applications will expedite the review process. MISO expects the ERAS Interconnection Requests to apply when they are ready and meet all the necessary eligibility requirements to participate. All application deadlines and ERAS Interconnection Requests will be posted on the MISO public website in a timely fashion.

**Q. WHY WILL MISO CREATE A WAITLIST OF ERAS PROJECTS?**

**A.** Projects that apply in a certain cycle but are not the first ten projects that are submitted will be studied in a future ERAS Quarterly Study Period and will remain on an ERAS “waitlist” until MISO has completed a screening process of the first ten projects. After the first ten projects are validated, the remaining projects on the waitlist will be deferred to the next available study quarter in order of when each project was submitted. As soon as the remaining ERAS applicants have gone through the screening process and are accepted into ERAS, MISO will publish the projects and their assigned quarters on the ERAS webpage.

**Q. WHAT DOES THE ERAS SCREENING PROCESS INVOLVE?**

**A.** MISO will complete a screening analysis to verify that the projects in a single ERAS study cycle are not in the same geographic area or do not impact the same constraints. If they are in the same area or do impact the same constraints, then the projects will be placed in different quarterly study cycles as separate serial studies. The first submitted project will be processed first, and the next highest priority project (based on submission time) will be processed in a future quarter study cycle.

1   **Q.    WHAT IF MULTIPLE ERAS REQUESTS HAVE CONTRACTS TO SERVE THE**  
2       **SAME LOAD?**

3   **A.**    There is a possibility that a very large load will need multiple generators to serve it and  
4       would potentially sign agreements with more than one generator. It is incumbent upon the  
5       load to determine whether it has negotiated for a sufficient amount of generation and to not  
6       rely upon the RERRA to match exact load amounts with generation amounts. It is  
7       important to note that these projects cannot be studied together in the ERAS serial process.  
8       Thus, the projects would be split over multiple ERAS quarterly study periods in order of  
9       submission time even if they are submitted within the same quarter and will serve the same  
10      load. MISO recognizes that this is less than ideal from a load need perspective, but in order  
11      to ensure that ERAS remains an expedited process that enables the efficient study of ERAS  
12      Interconnection Requests in serial order, it must spread out proposed requests that impact  
13      the same constraints or serve the same load. This also means that MISO could process a  
14      lower queued project ahead of one of these projects if it is a later submitted project that is  
15      not similarly situated geographically or if it does not impact any of the same constraints as  
16      a higher queued project.

17   **Q.    WILL DEFERRED ERAS PROJECTS LOSE THEIR NON-REFUNDABLE D1**  
18       **PAYMENT?**

19   **A.**    No. MISO will hold their D1, D2, and M2 in order for them to continue to be active  
20      requests that are not deficient. But proposed projects that do not meet the ERAS eligibility  
21      requirements and are rejected from the ERAS process will lose their D1 payment, but  
22      MISO will refund the remaining study and milestone deposits if they withdrawal.  
23      Otherwise, they will be automatically transferred into the DPP process. The ERAS projects

will be studied serially in order of submission time. MISO conducts a similar process for the queue cap and will be able to efficiently study the ten projects submitted per ERAS cycle.

**B. Updating the RERRA Notification Requirement**

**Q. WHY DID MISO CHANGE THE RERRA NOTIFICATION REQUIREMENT?**

**A.** Following the guidance provided in the Commission’s rejection of MISO’s original filing, MISO drafted updated language to better tailor and connect the resource adequacy needs with the ERAS projects as verified by the relevant RERRA. The Commissioners indicated that the previously proposed RERRA notification was insufficient to establish a true connection to the resource adequacy and/or reliability need. MISO is also now requiring that the load being addressed by the ERAS project be in the same LRZ region as the RERRA providing the verification, unless the project applicant can demonstrate that the use of a Generating Facility not in the same LRZ was included in a resource filing or other submission made to the RERRA. An example of a resource filing that was submitted to a RERRA is an Integrated Resource Plan. This is another way to more closely tie the ERAS project to the identified resource adequacy and/or reliability need.

**Q. HOW DID THE RERRA NOTIFICATION REQUIREMENT CHANGE?**

**A.** Following the Commission’s order, MISO recognized that it needed to change the RERRA requirement and has proposed updated language in the tariff. The Commission noted in its order that “MISO has not demonstrated that the proposed Tariff language is tailored to ensure that only those resources capable of addressing identified near-term resource

adequacy or reliability needs are eligible for expedited study through the ERAS process.”<sup>31</sup>

Under the new language, the ERAS Interconnection Request must be accompanied by a written verification from a RERRA that either the new, incremental load addition is valid and not otherwise included in a resource plan, or the Generating Facility proposed will address a resource adequacy deficiency as determined by the RERRA.<sup>32</sup> MISO changed the language to better tailor the RERRA notification requirement to a new resource adequacy and/or reliability need. The verification may only come from the RERRA where the load to be served is located and the Generating Facility must be in the same LRZ as the load needed as described above.

**Q. WHY IS IT REASONABLE TO REQUIRE A RERRA TO VERIFY TO MISO THAT A PROJECT SHOULD BE CONSIDERED FOR THE ERAS PROCESS?**

**A.** First and foremost, MISO is not a resource planner. It is the reliability and market operator for 15 states and one Canadian province. It is the state or RERRA that has jurisdiction over and determines the resource adequacy needs and/or policies that governs the retail electric service to end-customers. Rather, as noted in the Federal Power Act, the states are the ultimate authority for resource adequacy, hence their necessary inclusion in the ERAS process to address the need for these critical projects to maintain resource adequacy. In order to ensure that the proposed ERAS projects will address a resource adequacy and/or reliability need claimed by an Interconnection Customer, MISO needs the RERRA (or its documented representative) where the load is located to provide a written verification as described above for MISO to study the generation expected to serve that need.

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<sup>31</sup> ERAS Order at P 202.

<sup>32</sup> See Tab A Redlines, GIP Section 3.3.1.



1 This requirement will prohibit the submission of projects that have no connection to a  
2 verified load need thereby increasing the certainty that the project will reach completion  
3 and prevent speculative projects from using the ERAS process.

4 **Q. WHY IS MISO REQUIRING THE ERAS PROJECT AND THE IDENTIFIED**  
5 **RESOURCE ADEQUACY AND/OR RELIABILITY NEED BE LOCATED IN THE**  
6 **SAME LOCAL RESOURCE ZONE?**

7 **A.** MISO is requiring the load being addressed by the ERAS project be in the same LRZ as  
8 the Generating Facility unless the project applicant can demonstrate that the use of the  
9 Generating Facility was included in a resource filing made to the relevant RERRA.  
10 Requiring the proposed ERAS project to be located in the same LRZ as the RERRA-  
11 verified new, incremental load or resource adequacy deficiency ensures that the generation  
12 is going to support the load need in that area. This requirement also ensures that the  
13 proposed ERAS project is closely tied to a specific spot load or resource adequacy need.  
14 This requirement strengthens the nexus between the new load and the ERAS generation  
15 project and will serve as MISO's location criterion, which other RTOs have utilized in their  
16 similar proposals.<sup>33</sup>

17 **Q. DOES THE RERRA VERIFICATION CONSTITUTE EVIDENCE OF A**  
18 **DESIGNATION OF NEED OR A FINDING OF APPROPRIATENESS BY THE**  
19 **RERRA?**

20 **A.** No. The following language was included in the proposed tariff redlines as part of the  
21 RERRA verification requirement:

22 A RERRA's written verification is not intended to constitute or provide  
23 evidence of any final determination of need or suitability of the project for

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<sup>33</sup> ERAS Order at P 202.

1           any purpose by the issuing entity beyond requesting that the Transmission  
2           Provider apply the ERAS process for such project.<sup>34</sup>  
3

4           The purpose of the verification requirement is to confirm to MISO that the new,  
5           incremental load addition is valid and is not currently included in a plan or other procedure  
6           under the RERRA's purview or the Generating Facility will address an identified resource  
7           adequacy deficiency. After lengthy conversations with the states during the development  
8           of MISO's first ERAS filing, MISO understands that each RERRA has its own process and  
9           timeline for formally determining needs and approval processes and that part of these  
10          processes by necessity occur after the project has been studied by MISO.

11          It is important that the RERRA verification not prejudice the ability of the RERRA to make  
12          later determinations in accordance with applicable laws and regulations. The purpose of  
13          ERAS is to enable the states to meet their resource adequacy needs, while not acting as an  
14          impediment to their approval processes. For MISO's purposes, what is important is that it  
15          knows which projects to study on an expedited basis and to ensure any Network Upgrades  
16          identified in the study, and listed in an EGIA are constructed to provide certainty to later  
17          planning processes. The Tariff language meets this need while protecting the rights of the  
18          RERRA to make determinations in accordance with its own processes. This language was  
19          included to ensure that the RERRA's written verification to MISO that the new,  
20          incremental load addition is valid and is not currently included in a plan or other procedure  
21          under the RERRA's purview or the Generating Facility will address an identified resource  
22          adequacy deficiency could not be used by the Interconnection Customer in a subsequent  
23          state or RERRA regulatory process as proof or evidence that the project must be approved.

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<sup>34</sup> Section 3.9.1.

1 The RERRAs reserve the right to make a judgement on the need for a project after MISO  
2 has studied the project through ERAS as applicable state regulatory processes and  
3 approvals still apply. This ensures that MISO's acceptance of the project into ERAS cannot  
4 be interpreted as MISO *directing* the state or RERRA to approve the project through their  
5 independent regulatory review process. The intention of the language noted above was  
6 also to ensure the notification does not pre-determine the outcome of any applicable state  
7 process.

8 In addition, any Network Upgrades identified in the ERAS process and included in an  
9 executed EGIA, or filed unexecuted EGIA, will be constructed regardless of whether that  
10 EGIA is later terminated due to the ERAS Interconnection Request not being constructed.  
11 This adds an additional layer of responsibility to the ERAS Interconnection Request to  
12 ensure its certainty and ensures that MISO can utilize that Network Upgrade(s) in later  
13 planning processes. For instance, projects within the DPP process can rely on approved  
14 MTEP projects, including Network Upgrades approved through the ERAS process, to  
15 mitigate constraints identified with the DPP process.<sup>35</sup>

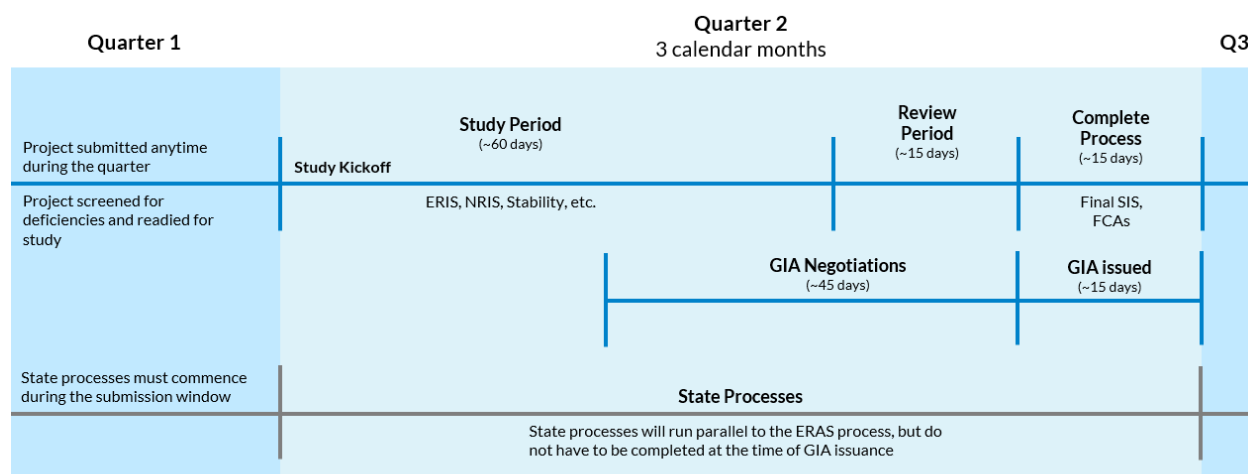
16 **Q. HOW DOES THE ERAS REVIEW PROCESS ALIGN WITH STATE**  
17 **REGULATORY REVIEW PROCESSES?**

18 **A.** State processes are expected to commence during the ERAS submission window and then  
19 work in parallel to ERAS, as presented in Figure 2. These processes may be completed  
20 after MISO has finalized the study and issued the EGIA, or potentially complete before the  
21 execution of an EGIA. If the state processes and ERAS are done in parallel it may allow

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<sup>35</sup> Generator Interconnection Business Practices Manual (BPM-015), Section 6.1.1.1.

for even distribution of work and ensures these critical, time-sensitive projects can proceed efficiently and come online as necessary.



Study will consist of stability, short circuit, voltage analysis, and IC Interconnection Facilities

**Figure 2: ERAS Quarterly Study Period Example**

**Q. WILL MORE THAN ONE RERRA NEED TO PROVIDE A VERIFICATION FOR A SINGLE PROJECT?**

**A.** No. MISO is only requiring verification from one RERRA for ERAS participation. The RERRA providing the written verification for the project must be the RERRA responsible for the load that the project is proposed to serve. Per the resource adequacy definition of a RERRA, an identified load can only be regulated by one RERRA.

**C. ERAS for Illinois and Part of Michigan**

**Q. WILL THE REFINED ERAS PROCESS INCLUDE ILLINOIS AND THE RESTRUCTURED PARTS OF MICHIGAN?**

**A.** Yes. MISO has drafted proposed language to incorporate the restructured states into the ERAS process. If an Interconnection Customer's new Generating Facility will address resource adequacy and will either: "(1) serve retail choice load located in a state that limits

1 the amount of load that can select retail choice to a percentage of the electric utility's  
2 average weather-adjusted retail sales; or (2) serve retail choice load and/or be located in a  
3 retail choice state other than one that limits the amount of load that can select retail choice  
4 to a percentage of the electric utility's average weather adjusted retail sales", the  
5 Generating Facility may qualify to participate in ERAS, given it meets all other ERAS  
6 requirements.<sup>36</sup> In these instances, the Interconnection Customer will indicate the specific  
7 retail choice load on the Interconnection Request and provide evidence of the  
8 determination of need, but will not be required to include a verification from a RERRA.  
9 MISO is proposing these changes to include Illinois and a small part of Michigan in the  
10 ERAS process.

11 **Q. WILL MISO'S PROPOSED LANGUAGE FOR ILLINOIS AND MICHIGAN GIVE**  
12 **PROJECTS AN ADVANTAGE OVER OTHER PROJECTS HOPING TO**  
13 **PARTICIPATE IN ERAS?**

14 **A.** No. Due to the way that Illinois is structured, it does not have a RERRA that could verify  
15 the resource adequacy and/or reliability need like the other states. At first glance, removing  
16 the RERRA verification requirement for retail states would seem to give these areas an  
17 advantage over other states in the MISO footprint. But MISO has crafted other limitations  
18 in the ERAS process that will limit the number of projects that can be proposed from  
19 developers in Illinois and Michigan that serve retail choice load. First, only 8 ERAS  
20 projects will be accepted to serve retail choice load and only 10 ERAS projects will be  
21 studied per cycle. Additionally, those studied within the same quarter cannot be  
22 geographically located near other projects or impact the same constraint. Second, the

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<sup>36</sup> See Tab A Redlines, GIP Section 3.9.1.

ERAS projects will be limited to LRZ regions where the need is located, which will further reduce the number of projects that can be proposed from retail choice states. Interconnection Customers will also still have to provide evidence of determination of need as outlined in the Tariff. MISO is working to level the playing field between the states in its footprint and also wants to ensure that the projects are spread out among the states to better address the resource adequacy and/or reliability needs that they may have.

**Q. DO ERAS PROJECTS IN RETAIL CHOICE STATES HAVE A DIFFERENT CAP?**

**A.** Yes. ERAS projects submitted in accordance with Section 3.9.1(1) will be separately limited to a maximum of 8 projects for resource adequacy deficiencies until the sunset of the ERAS process. Retail choice states are a small subset of the MISO footprint and require an ERAS process that is not bound by a RERRA verification due to the need to host an open auction process within those states. Since a RERRA will not be involved in providing a verification for projects proposed in restructured states, MISO needed to ensure that this restructured ERAS process was limited in scope. After an internal analysis and discussion with retail choice states, MISO determined that a cap of eight projects strikes the proper balance between the portion of MISO that the retail choice states represent and the number of projects that will be accepted into the ERAS process. These eight projects will be studied in addition to the 10 accepted by IPPs to serve non-LSE load and the 50 projects allocated for the remaining needs in the MISO footprint, but they will still be limited by the 10 project per quarterly study cycle cap. A member of the IPP sector proposed that MISO set aside a specific number of projects for IPPs to submit with agreements with non-

1 LSE load and MISO believes that 10 projects is an appropriate balance similar to the retail  
2 choice cap above.

3 **D. Changes to the Interconnection Application**

4 **Q. HOW HAS THE INTERCONNECTION REQUEST APPLICATION CHANGED**  
5 **FOR ERAS?**

6 **A.** MISO is requiring additional information from ERAS applicants as compared to other  
7 generation Interconnection Requests in order to better tie the ERAS project to the load need  
8 and the associated RERRA in the relevant LRZ. As part of the ERAS application process,  
9 project applicants will be required to supply a non-confidential summary of the following  
10 information: the developer of the ERAS project, the MW range of need the ERAS project  
11 is addressing, what LRZ region the project is located in, and a general description of what  
12 the load is serving (i.e., a data center, manufacturing plant, a reliability need, etc.). This  
13 information will provide MISO with the full picture of the proposed project including fuel  
14 source and MW size, details about the load it is serving, and what RERRA is involved in  
15 the project's proposal to ERAS. MISO is also planning to publish what cycles the ERAS  
16 projects will be studied in and which carve out they are requesting, if applicable. This  
17 information will be published on MISO's ERAS webpage as well.

18 **Q. WHY IS MISO IMPLEMENTING THESE CHANGES TO THE APPLICATION**  
19 **FOR ERAS?**

20 **A.** To further create a tight nexus between the load need and the Generating Facility  
21 addressing the need, MISO is requiring additional information be submitted with the ERAS  
22 application. MISO is aiming to closely tailor the proposed ERAS project to the verified  
23 resource adequacy and/or reliability need and in a more transparent manner. These changes

1 aim to better connect the ERAS project with the need and the generator addressing that  
2 need. With the Interconnection Request application, along with the RERRA verification  
3 and the executed agreement, MISO will have a full picture of the ERAS project, the  
4 resource adequacy or reliability need it is proposing to address, and all the relevant parties  
5 involved with the project. MISO is making the ERAS process more transparent and  
6 believes that the additional information required on the Interconnection Request  
7 application will serve this purpose.

8 **Q. WHAT DOCUMENTS ARE REQUIRED WITH THE ERAS APPLICATION?**

9 **A.** Each ERAS applicant will need to submit the following: (1) the Interconnection Request  
10 application with detailed information regarding the project, the developer, and the load that  
11 will be served; (2) the RERRA verification validating the specific driver (new, incremental  
12 load or resource adequacy deficiency) in its footprint; and (3) an executed agreement that  
13 the project submitted for ERAS is intended to be used by the entity with an identified  
14 resource adequacy or reliability need. As explained above, the ERAS applicants are also  
15 required to submit a non-confidential summary of the proposed project that will be  
16 published on MISO's webpage.

17 **V. THE ERAS ELIGIBILITY REQUIREMENTS**

18 **Q. WHAT ENTITIES CAN SUBMIT PROJECTS TO PARTICIPATE IN ERAS**  
19 **PROCESS?**

20 **A.** Initially, MISO proposed that only LSEs could apply to participate in ERAS due to their  
21 responsibility to serve their load customers. However, based on stakeholder input during  
22 the development of the original ERAS proposal, MISO changed course and recognized that  
23 the vast majority of the Interconnection Requests, including those that would be submitted



1 through ERAS, may not be initially submitted by the LSE that ultimately used the resource  
2 to serve their load, but rather an Independent Power Producer (“IPP”) that would eventually  
3 transfer the resource over to an LSE via an offtake agreement. Given the importance of  
4 maintaining the inclusivity and open-access aspects of ERAS, MISO updated the eligibility  
5 requirements accordingly to ensure that any project developer can apply to participate in  
6 ERAS as long as the project meets all of the ERAS eligibility requirements. The refined  
7 ERAS proposal has not changed this.

8 **Q. PLEASE DESCRIBE THE ELIGIBILITY REQUIREMENTS FOR**  
9 **INTERCONNECTION SERVICE VIA ERAS.**

10 **A.** In determining what the necessary eligibility requirements were for ERAS, MISO  
11 established requirements that would allow a project to efficiently move through a study  
12 process while still being considered “shovel ready.” Based on multiple rounds of feedback  
13 from stakeholders and additional analysis, MISO is proposing the following technical  
14 requirements for ERAS that must be met at the time of application submission:

- 15 1. The project must be for new capacity.
- 16 2. The project must request Network Resource Interconnection Service (NRIS).
- 17 3. Evidence of a written verification from the RERRA where the load to be served  
18 is located by the Generating Facility that the new, incremental load addition is  
19 valid and is not currently included in a plan or other procedure under the  
20 RERRA’s purview or the Generating Facility will address an identified resource  
21 adequacy deficiency.

4. Evidence substantiating an executed agreement that the project submitted for ERAS is intended to be used by the entity with an identified resource adequacy or reliability need.
5. D1 and M2 payments will ensure increased financial commitment when the ERAS Interconnection Request is submitted. The D1 will be a \$100,000 non-refundable fee and the M2 will be \$24,000 per MW.
6. 100% Site Control for the generator as well as 100% Interconnection Customer's Interconnection Facilities (ICIF) Site Control will be required when the application is submitted.
7. COD requested in the ERAS application that is no more than 3 years from submission.
8. The project's requested Interconnection Service must not exceed 150% of the identified MW need.
9. The project and the identified resource adequacy and/or reliability need must be in the same Local Resource Zone (LRZ), unless as previously noted.

I provide additional details on each requirement below.

**Q. WHY IS MISO REQUIRING AN EXECUTED AGREEMENT TO ADDRESS THE RESOURCE ADEQUACY AND/OR RELIABILITY NEED?**

**A.** Requiring executed documentation by an authorized representative of the entity submitting an ERAS Interconnection Request is reasonable because it allows MISO to balance the appropriate level of "shovel ready" certainty for the critical project. The executed agreement with an off-taker requirement also reduces speculative projects and connects a specific project with a claimed resource adequacy and/or reliability need. Additionally, it

helps verify the accuracy of the information set forth in the ERAS application, which will ensure that MISO will be able to expeditiously transition to studying the project.

**Q. WHAT IS THE PURPOSE OF THE BROAD AGREEMENT DOCUMENTATION LANGUAGE IN PROPOSED TARIFF SECTION 3.9.1.2.d?**

**A.** The following language was added to the executed agreement requirement:

d. Other agreement between the entity submitting the Interconnection Request, including the RERRA verification letter as appropriate, and the entity with the load to be served (including, but not limited to, an Alternative Retail Electric Supplier, or its Load Serving Entity), stating that the ERAS project will be used to meet an identified resource adequacy and/or reliability need.

MISO recognizes this language is broad, but the intent of this subsection was to establish a minimum requirement that an arrangement exists between the driver of the need and the project to address that need. As MISO developed this language through the stakeholder process, we determined that requiring a “PPA” or other specified form of agreement, or specific terms, may prove too onerous, especially in jurisdictions where need determinations or commercial commitments are contingent on identified project costs or previous MISO study. What is important is a demonstration that an ERAS Interconnection Request is the solution intended by the entity with the need. The language balances two goals: 1) it prevents speculative requests by entities that are merely hoping to be selected to address a need later, and do not have buy in from the need driver, and 2) it avoids requirements for MISO to evaluate the details of commercial arrangements that may still be in development, which would frustrate use of the ERAS process in many cases. The addition of Alternative Retail Electric Supplier specifically allows agreements with such entities operating in retail choice states.

**Q. WHY IS MISO LIMITING ERAS PROJECTS TO 150% OF THE IDENTIFIED MW NEED BASED ON NAMEPLATE CAPACITY?**

**A.** In working to refine the ERAS process, MISO looked at how SPP, CAISO, and PJM structured their corresponding processes. The CAISO proposed a cap of 150% of total available transmission capacity for each of its Deliverable Zones arguing that the “percentage-based nature of the cap ensures that the studies are scaled to the resource and transmission planning completed by the State and local regulatory authorities, while still enabling competition.”<sup>37</sup> SPP took a different route – it plans to calculate a maximum amount of capacity that each LRE may propose for inclusion in ERAS and will use a “LRE Ceiling Capacity,” which is calculated using “the sum of the LRE’s projected capacity, and RAR obligations to obtain the Projected LRE Deficiency and then multiplying that number by the Ceiling Multiplier of 1.25 (i.e., 125%).”<sup>38</sup> MISO is proposing to limit ERAS projects to 150% of the identified need because MISO’s goal is to tighten the nexus between the load need and the proposed ERAS project. Understanding that accredited capacity, depending on the fuel type, is generally lower than 100% for many resources, MISO wanted to establish a closer connection between what is needed and what is being proposed by the ERAS project. The limitation of 150% of identified MW need will strike the proper balance between having a sufficient amount of interconnection service advancing through the study process to support the identified spot

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<sup>37</sup> *California Independent System Operator Corporation*, Docket No. ER24-2671-000, CAISO’s Transmittal Letter at 6 (filed Aug. 1, 2024).

<sup>38</sup> *Southwest Power Pool*, “Tariff Revisions to Implement the Expedited Resource Adequacy Study” at 29, Docket No. ER25-2296-000 (filed May 22, 2025).

1 load or resource adequacy deficiency and preventing the overbuilding of resources through  
2 ERAS.

3 **Q. HOW IS MISO MEASURING THE 150% OF THE IDENTIFIED MW NEED?**

4 **A.** MISO is measuring the identified MW need the amount of Interconnection Service  
5 requested. Interconnection studies are based on the amount and type of interconnection  
6 service requested and they do not assess a generator's potential accreditation. Also, the  
7 accreditation of a generator associated with any particular interconnection service may  
8 change over time based on the operating characteristics of the generator, the generators  
9 attributes, and whether surplus or replacement service is utilized. Additionally, the load an  
10 ERAS request will service could have some level of demand response and the ERAS  
11 process is fuel agnostic both of which can impact eventual accreditation needs. Based on  
12 these different elements, MISO determined that the maximum amount of Interconnection  
13 Service that can be associated with an ERAS request would be linked to the amount of load  
14 being served rather than on the generator's potential accreditation.

15 **Q. WHY IS MISO STILL REQUIRING HIGHER FINANCIAL COMMITMENTS TO**  
16 **PARTICIPATE IN THE ERAS PROCESS?**

17 **A.** First, a higher D1 application fee is necessary to implement the temporary ERAS process  
18 and cover costs related to processing ERAS Interconnection Requests such as tools  
19 improvement, including improvements to MISO's application portal, and/or any additional  
20 staffing. This higher and non-refundable application fee will also increase the financial  
21 obligations of the applicants, which will ensure that only "shovel ready" projects will be  
22 submitted to ERAS.

Second, it is critical that ERAS Interconnection Customers have a greater financial stake upfront for ERAS Interconnection Requests beyond study deposits spent in the study process, as it will encourage a higher level of due diligence and commercial readiness. The increased M2 financial exposure of \$24,000 per MW is based on the existing MISO Provisional Interconnection Service's milestones requirements as it represents the same level of upfront commitment for M2, M3, and M4 an Interconnection Customer would make in the DPP three phased process (i.e. \$8,000 per MW per phase). Figure 3 presented below demonstrates the differences between the refined ERAS proposal and existing DPP financial requirements. The red font indicates what requirements were added or changed since the original ERAS proposal.

**Figure 3: ERAS, DPP, and Common Requirements**

| ERAS requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DPP requirements                                                                                                                                                                                                                                                                                                                                                                                         | Technical requirements                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>D1 = non-refundable \$100,000</li> <li>D2 = \$50,000 - \$640,000 (dependent on project size)</li> <li>M2 = \$24,000/MW</li> <li>100% site control (site and POI)</li> <li>Service type: NRIS</li> <li><b>RERRA Verification</b></li> <li>Executed agreement/PPA/BTA</li> <li><b>COD no later than 3 years from 2025/2026 submission</b></li> <li><b>No more than 68 total ERAS projects</b> <ul style="list-style-type: none"> <li>8 project carve out for restructured states</li> <li>10 project carve out for IPPs with agreement with entities other than LSEs</li> </ul> </li> <li><b>No more than 10 projects studied per quarter</b></li> <li><b>Interconnection Service must not exceed 150% of the identified MW need</b></li> <li><b>Project and RA/reliability need must be within the same Local Resource Zone</b></li> <li><b>IC must identify specific load addition and/or RA deficiency the project will address (MW value, location, etc.) – this information will be made public</b></li> </ul> | <ul style="list-style-type: none"> <li>D1 = \$7,000</li> <li>M2 = \$8,000/MW</li> <li>M3 = 20% of NU - M2</li> <li>M4 = 30% of NU - M2 and M3</li> <li>50% POI site control or \$80,000/line mile with 100% generating facility site control</li> <li>Service type: ERIS or NRIS</li> <li>COD no more than 5 years from submission, plus 3 years during negotiation, plus 3-year grace period</li> </ul> | <ul style="list-style-type: none"> <li>Synchronization Date</li> <li>Commercial Operation Date</li> <li>Interconnection Facilities In-Service Date</li> <li>Service Type (NRIS)</li> <li>Generator Output</li> <li>Primary Fuel Type</li> <li>Generator Manufacturer &amp; Model Number</li> <li>Library Stability Model</li> <li>One-Line Diagram</li> <li>Generating Facility Data</li> <li>Step-Up Transformer Data</li> </ul> |

**Q. WOULD ERIS REQUESTING NRIS QUALIFY UNDER ERAS?**

**A.** No. One of the eligibility requirements for ERAS is that it must represent new incremental capacity. In the instance of an interconnection request with ERIS working to add NRIS to

1        their request, this would not represent new capacity but rather an uprate to existing  
2        interconnection service. This type of request does qualify for an exemption to the queue  
3        cap though and can proceed through the next DPP cycle automatically.

4        **Q.     CAN EXTERNAL GENERATING RESOURCES REQUESTING NEW**  
5        **INCREMENTAL NEW CAPACITY REQUEST ERAS?**

6        **A.**     Yes. An ERAS request associated with an external generating resource, requesting  
7        External NRIS, would be studied under the standing NRIS study procedures covered under  
8        the proposed section 3.9.3 of Attachment X. This proposed project must still meet all the  
9        other ERAS eligibility requirements including providing a RERRA verification.

10       **Q.     WHY IS MISO STILL REQUIRING 100% SITE CONTROL FOR ERAS**  
11       **PROJECTS?**

12       **A.**     The increased gating requirements involving Site Control and financial milestones for  
13       ERAS Interconnection Requests are reasonable because they reflect the importance of  
14       preserving the integrity and certainty of these projects. It also helps to ensure that MISO  
15       will not get inundated with projects that are not shovel ready even with the new ERAS cap.  
16       Requiring 100% Site Control to the POI with the ERAS application submittal, along with  
17       the existing requirement of 100% Site Control for the Generating Facility encourages only  
18       shovel ready project applicants apply to ERAS. ERAS Interconnection Requests must  
19       address a resource adequacy and/or reliability need in the short-term, which essentially  
20       requires the project to be shovel ready in the next few years. The 100% Site Control  
21       requirement is also designed to discourage speculative and non-ready projects from

entering ERAS. To that end, MISO also determined that there would be no Financial Security option for the POI Site Control like is available within the DPP process.

**Q. WHY DOES AN ERAS INTERCONNECTION REQUEST NEED TO HAVE AN ACCELERATED COMMERCIAL OPERATIONS DATE (“COD”)?**

**A.** Under the current DPP timeline requirements, to use an example, an Interconnection Request submitted in the 2025 DPP study cycle would not need to come online before 2036. First the applicant into the DPP process can have a COD that is no more than 5 years out. Second, during GIA negotiations the Tariff allows the IC to extend the application COD by an additional 3 years. And finally, the *pro forma* GIA allows for a 3 year grace period beyond the COD documented in the GIA for a total of 11 years after initial submission.

Given the urgent resource adequacy needs identified earlier, another tool or mechanism is needed to ensure that the ERAS Interconnection Requests come online as soon as possible. MISO is requiring that ERAS projects have a COD within 3 years of their ERAS submission date unless the project is deferred to a later quarter at which point the COD can be adjusted during GIA negotiations to be no more than 3 years from the kickoff of that project’s ERAS quarterly study cycle. Interconnection Service granted through ERAS would continue to have an additional grace period of 3 years from the COD date in the EGIA to become commercial as noted in MISO Appendix 6 Generator Interconnection Agreement (i.e. the *pro forma* GIA). This COD requirement in addition to other eligibility requirements, including increased financial commitments and obtaining 100% Site Control, will ensure that only projects that can achieve commercial operations quickly participate in ERAS.



1 **Q. HAVE STAKEHOLDERS OR OTHER INTERESTED PARTIES EXPRESSED**  
2 **CONCERNS REGARDING THE COD REQUIREMENT?**

3 **A.** Yes. ERAS has ultimately been crafted in a transparent and collaborative manner to  
4 achieve a near term resource adequacy goal to maintain reliable grid operations. MISO  
5 worked to balance the end date to enable projects at differing points in the preparation  
6 process to participate in ERAS – some projects will be ready to participate this year, while  
7 others are working to have their projects ready to participate in 2026 or later. MISO will  
8 allow an extension on an ERAS project's COD deadline if it is deferred to a later study  
9 quarter.

10 **Q. HAS MISO CONSIDERED THAT ERAS INTERCONNECTION REQUESTS**  
11 **WILL BE SUBJECT TO THE POTENTIAL DELAYS (SUPPLY CHAIN,**  
12 **REGULATORY, SITE CONTROL, ETC.) THAT DPP PROJECTS ARE SUBJECT**  
13 **TO?**

14 **A.** Yes. MISO has taken these concerns into consideration. During the original ERAS  
15 discussions, we continued to hear from our Interconnection Customers that these issues  
16 persist. For this reason, MISO is proposing that Interconnection Service granted through  
17 ERAS would utilize the same grace period of 3 years from the COD date in the ERAS  
18 application to become commercial that all other Interconnection Customers have as noted  
19 in the MISO *pro forma* GIA. MISO recognizes there are numerous industry challenges  
20 outside of developers control and wanted to provide a sufficient amount of time for the  
21 developers to get their projects ready within this context. The current timeframe proposed

1 for ERAS should be sufficient to provide developers with time to overcome any supply  
2 chain or other unknown delays.

3 It should also be noted that as previously mentioned, given the increased gating  
4 requirements (Site Control, increased financial commitment), this ultimately helps to  
5 ensure that MISO will not get inundated with projects that are not shovel ready.

6 **Q. HOW WILL MISO CLOSE OUT THE ERAS PROCESS?**

7 **A.** The ERAS process will sunset at the earlier of the completion of sixty-eight ERAS  
8 Interconnection Request studies or by August 31, 2027. This time limitation also applies  
9 to the projects proposed by the retail choice states – if the eight projects are not submitted  
10 by the sunset date, the ERAS process will still close on August 31, 2027. The same is true  
11 for the projects proposed under the carve out for IPPs with agreements with entities other  
12 than LSEs – if the ten projects are not submitted by the sunset date, the ERAS process will  
13 still close as planned. MISO will only accept applications to be included in the last  
14 Quarterly Study Period prior to the sunset date. MISO will post the application deadline  
15 for each Quarterly Study Period on the MISO public website.

16 **VI. ERAS PROCESS COORDINATION**

17 **A. Coordinated Study Processes**

18 **Q. PLEASE DESCRIBE THE EXPEDITED PROCESSING OF THE EGIA.**

19 **A.** The refined ERAS process will still enable all parties to move expeditiously through EGIA  
20 negotiations. Because of the critical reliability need for ERAS Interconnection Requests  
21 and to ensure an overall expedited process for commercial operations, the EGIA follows  
22 an expedited timeline. The drafting of the EGIA by the MISO team will begin as soon as  
23 possible. Additionally, under the EGIA timing requirements for ERAS, MISO will tender

1 a draft EGIA within five (5) Business Days after the Interconnection Customer provides  
2 notice to proceed to EGIA negotiations. Following this, an EGIA would be tendered in  
3 less than 30 business days.

4 **Q. HOW WILL MISO PROVIDE INTERCONNECTION CUSTOMERS**  
5 **SUFFICIENT TIME TO EXECUTE A GIA?**

6 **A.** In crafting the ERAS process, MISO recognized the need to implement a shorter timeframe  
7 for the EGIA negotiation process to ensure that the overall ERAS process could be  
8 completed within 90 days. To that end, MISO will begin drafting an EGIA document as  
9 soon as possible. This ultimately enables the EGIA negotiation process to work in parallel  
10 with the study process and therefore the EGIA draft will be substantially further along at  
11 the end of the ERAS study process. As a result, after the Interconnection Customer issues  
12 their notice to proceed, an EGIA can be tendered for the execution in less than 30 business  
13 days.

14 **Q. CAN INTERCONNECTION CUSTOMERS WITHDRAW FROM ERAS?**

15 **A.** While there is a critical need for these ERAS Interconnection Requests, the proposed  
16 requirements still allow the Interconnection Customers an opportunity to withdraw once  
17 they are aware of the Network Upgrade costs. Moreover, it is possible that an  
18 Interconnection Customer may discover various issues with the proposed site in the ERAS  
19 process that would influence their desire to withdraw, or the RERRA could ultimately deny  
20 the project through their own processes. If the Interconnection Customer withdraws and  
21 terminates its EGIA after execution by all parties or after the EGIA is filed unexecuted, the  
22 Interconnection Customer will remain liable for the Network Upgrades documented in the  
23 EGIA and corresponding Facilities Construction Agreements (“FCAs”) or Multi-Party

Facilities Construction Agreements (“MPFCAs”), including those Network Upgrades arising from the Affected System Study process. If the ERAS Interconnection Request is withdrawn prior to EGIA execution, then there is no agreement to fund Network Upgrades and no impact on downstream planning processes. In these cases, the Interconnection Customer would be refunded their M2 payment and any remaining D2 payments not utilized to perform the study.

The increased penalties for Interconnection Customer withdrawals after the execution of the EGIA, along with the other requirements like the off-taker agreement and the RERRA notification, will help ensure that only critical projects needed for maintaining reliability and/or resource adequacy will apply to ERAS. Under the current effective GIP and DPP process, when an Interconnection Request is potentially withdrawn from the queue, there would be minimal financial exposure to the Network Upgrades. Given the urgent need for ERAS projects, MISO is requiring increased penalties to discourage Interconnection Customers from withdrawing from the ERAS process. More stringent requirements have the added benefit of reducing the potential speculation of the ERAS Interconnection Requests. Fewer speculative projects entering the ERAS process will result in shorter timelines for completing the ERAS Interconnection Studies. This requirement will also motivate developers to run their own studies beforehand.

**Q. PLEASE DESCRIBE HOW INTERCONNECTION SERVICE GRANTED THROUGH ERAS WILL BE STUDIED AND HOW IT WILL COORDINATE WITH THE CURRENT DPP PROCESS.**

**A.** The ERAS process will kick off starting September 2, 2025, and will integrate with existing processes without disrupting the ongoing DPP process. As explained previously in my

1 testimony, Interconnection Requests submitted through ERAS will be studied in a regional  
2 serial “first-come, first served” fashion based on the order the projects were submitted. It  
3 will follow a quarterly cadence established by proposed MISO timelines, ultimately  
4 culminating in the project receiving an EGIA in approximately 90 days. MISO proposes  
5 to utilize the existing engineering study process utilized in the DPP for ensuring full  
6 generator deliverability to the load. During the ERAS model build, all Existing Generating  
7 Facilities, included those from completed DPP cycles, the ERAS Interconnection Request,  
8 and the latest MTEP base case with all approved MTEP projects, including any recently  
9 approved Expedited Project Request (“EPR”) projects. This is the same process utilized  
10 for the DPP process except the DPP models include all higher queued Interconnection  
11 Requests from early cycle and all Interconnection Requests within that DPP cycle. ERAS  
12 studies will not include Interconnection Requests currently in the generator interconnection  
13 queue that do not have a GIA. This is important as many of the projects within the queue  
14 are speculative in nature given that more than 70% of the Interconnection Requests  
15 submitted into the DPP withdrawal or never get built.

16 Before every ERAS cycle, all Interconnection Requests with a GIA approved since the last  
17 base case was created will be added to the base case for the following ERAS cycle but are  
18 not included in any ongoing DPP studies. The base case for each DPP cycle is never  
19 updated once the study process is kicked off except for generation changes due to  
20 Interconnection Request withdraws or generator retirements. This ensures that the  
21 transmission capacity made available for DPP projects is not being taken away by ERAS  
22 Interconnection Requests approved outside of the DPP cycle.

Once the DPP cycle has concluded, the output from that process, and any completed ERAS and EPR projects will be used to populate a new MTEP base case. Any transmission issues identified by reconciling the cases will thus be addressed through the existing MTEP process. The next DPP cycle will then use the latest approved MTEP base case that has reconciled the models. This insulates existing DPP projects from negatives impacts or cost shifts due to the existence of the ERAS process. The contingent facilities listed in the EGIA would only be those facilities in the model used for the ERAS study and those Network Upgrades that come up as part of the ERAS study.

**Q. WILL ERAS PROJECTS NEGATIVELY IMPACT EXISTING PROJECTS IN THE GENERATOR INTERCONNECTION QUEUE?**

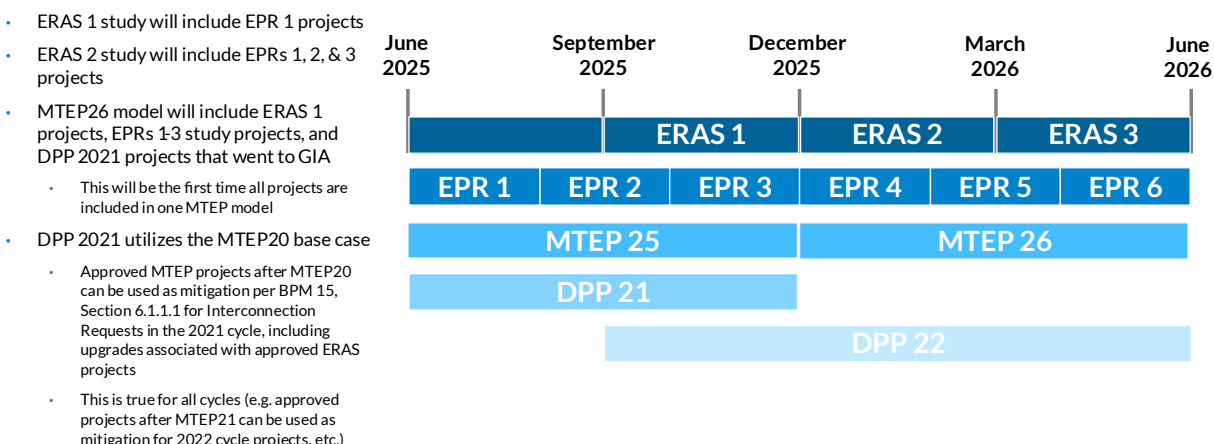
**A.** No. Under this model framework, the standing MISO DPP three phase process will not be impacted by ERAS as ERAS Interconnection Requests will not be included in ongoing DPP studies thereby not utilizing any available transmission capacity in those studies. The normal DPP process uses the most up to date MTEP base case when the study is kicked off and is not modified to include later approved MTEP projects or ERAS Interconnection Requests. Although these projects approved after the kickoff the DPP process are not included in the study, there is an existing process that allows these projects to mitigate constraints within the DPP process with MTEP projects. Network Upgrades approved through the ERAS process will also be used to mitigate constraints in the DPP process. ERAS will only positively impact the Network Upgrade identification process of these other processes.<sup>39</sup> This coordinated process is demonstrated in Figure 4 below.

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<sup>39</sup> This is further addressed in section 6.1.1.1 of the BPM-015 Generator Interconnection Business Practice Manual.

Figure 4: MISO Coordinated Study Processes

The ERAS process will kickoff quarterly starting September 2025 and will integrate with existing processes without negatively impacting those ongoing studies



**Q. WHAT WILL HAPPEN IF TRANSMISSION CAPACITY IS OVERALLOCATED DUE TO AN APPROVED INTERCONNECTION REQUEST IN ERAS AND THE DPP?**

**A.** On the rare occasion that overallocation may occur, it would be discovered as part of the standing MTEP Deliverability Analysis. The process has been structured so that there cannot be any negative impact to the projects currently in the DPP process, but this can lead to a potential occasion of overallocation. There will be no negative implications for either the DPP Interconnection Request or the ERAS Interconnection Request due to this rare occurrence. Both will be allowed to proceed, and neither will be required to pay additional costs due to the overallocation. MISO performs generator deliverability analysis as a part of the current MTEP process to ensure continued deliverability of generating units with Network Resource Interconnection Service. Results of the assessment are based on an analysis of near-term (5-year) and long-term (10-year) summer peak scenarios. Any

constraints that are identified as needing mitigation would be formalized in a future MTEP project.

**Q. WHO IS ASSIGNED THE COST OF THE MTEP PROJECT APPROVED TO MITIGATE ANY OVERALLOCATION SCENARIO?**

**A.** The cost of the MTEP project will be allocated based on the existing Tariff rules, which is likely to be the load within the transmission pricing zone where the transmission upgrade is located. However, it is also expected that this load will include the load that is benefiting from the ERAS and DPP Interconnection Requests and benefits from the Network Upgrades that were funded by the generators that went through those processes. In addition, the cost shift is consistent with existing processes. In particular, MTEP projects that are approved after the start of a DPP cycle or even MTEP projects that are approved after the execution of a GIA, can be utilized to mitigate constraints identified in the DPP process. Therefore, an Interconnection Request can be contingent on that MTEP project instead of relying on the original Network Upgrade identified through the DPP process to mitigate that DPP constraint. As a result, the elimination of that Network Upgrade, the Interconnection Customer will not have to pay those costs. This is a cost shift where the load will pay for the MTEP project instead of the Interconnection Request paying for the Network Upgrade.

**Q. ARE THERE OTHER INSTANCES WHERE PREVIOUS PARALLEL STUDIES CAN RESULT IN NEW CONSTRAINTS THAT ARE IDENTIFIED LATER IN A FUTURE MTEP PROCESS?**

**A.** Yes. MISO has multiple planning processes, many performed in parallel. These processes have their own unique modeling assumptions that are vetted through the stakeholder



1 process. These processes also have different cost allocation methodologies based on “but  
2 for” and “beneficiary pay” principles that are vetted through the stakeholder process. Some  
3 examples are Baseline Reliability Projects, identified to meet standards for both NERC and  
4 regional reliability; Market Efficiency Projects, which address economic driven  
5 congestion; Multi-Value Projects, identified through the Long Range Transmission  
6 Planning process; Transmission Deliverability Service Projects, identified to support  
7 transmission service; Interregional Transmission Projects, identified to improve reliability  
8 and/or economic driven congestion within MISO and a neighboring RTO; Other Projects,  
9 identified to support local reliability issues like those identified to add load in the EPR  
10 process; Generator Interconnection Projects, which are Network Upgrades identified to  
11 reliably connect new Interconnection Requests; and new Generating Facilities that are  
12 approved through the DPP, surplus or replacement processes.

13 After all these projects are approved through their relevant processes, they are then  
14 included in the base cases of subsequent studies based on the modeling assumptions for  
15 those studies. It is not uncommon for new constraints to arise in subsequent studies driven  
16 by all of the approved transmission and generation projects, as well as due to new load  
17 growth, and the retirement of generation. Constraints could also be negatively impacted by  
18 similar processes in neighboring Transmission Providers. As these new constraints are  
19 identified new mitigation is identified, which could include another new transmission  
20 project necessary to ensure reliability.

1                    **B. ERAS and the EPR Process**

2    **Q.    WHY IS THERE AN EPR GENERATION SHORTAGE?**

3    **A.**    Expedited Project Reviews (“EPRs”) are requests by a Transmission Owner for MISO to  
4            quickly review the impacts of a proposed transmission project on the MISO Transmission  
5            System. A Transmission Owner requests these reviews when it determines that system  
6            conditions warrant the urgent development of system enhancements that would be  
7            jeopardized unless MISO performs an expedited review of the impacts of the project.<sup>40</sup> By  
8            default, MISO reviews such projects for inclusion in MTEP within a thirty-day timeframe.  
9            EPR requests generally reflect an emergent need on the Transmission System that must be  
10           evaluated more quickly than the normal MTEP planning process and timeline allow. The  
11           announcement of a large and concentrated load addition at a given point on the  
12           Transmission System, such as a data center, is a common driver for EPRs. The EPR  
13           process reflects the fact that this load must be served and that doing so may require rapid  
14           enhancements to the transmission system. Recently, MISO has had to rely on increased  
15           transfers to serve these large loads due to the lack of local generation to serve the load,  
16           thereby increasing the amount of transmission upgrades necessary to support the load  
17           additions. Additionally, Transmission Owners have been unable to support the full amount

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<sup>40</sup> EPRs are governed by Appendix B, Section VII of the Transmission Owners’ Agreement, Section I.D.1.c of Attachment FF to the Tariff and Section 4.1.4 of Business Planning Manual 20 (Transmission Planning).

1 of load a customer would want to connect at a particular location due to the inability to  
2 quickly add local generation to support the load.

3 **Q. HOW ARE EPRs CONNECTED TO ERAS?**

4 **A.** While EPRs address the transmission development demands associated with large load  
5 additions, these additions may also require a corresponding need to evaluate generation on  
6 an expedited basis to serve this load. The EPR process models generation that has a signed  
7 GIA, but there is no guarantee that new generation will be interconnected to the  
8 Transmission System at a point that can reliably and cost effectively serve the emergent  
9 load need. In fact, given the length of MISO's DPP queue delays and the typical generation  
10 development timeframe, it is unlikely such load demand was known at the time that any  
11 generation projects with a GIA were originally submitted into the queue. Thus, it is  
12 unlikely that a generating unit with a high degree of certainty of being online by the needed  
13 date of that load driver also happened to be situated in a place where it could reliability  
14 serve the emergent load need without significantly extending the length (and cost) of the  
15 EPR in order to connect at a point on the Transmission System where excess generation is  
16 available. This is especially true given the fact that the EPR can be the first and only  
17 connection from that load source to the Transmission System. The EPR process is about  
18 approving the transmission necessary to support new load growth, but not the load itself.  
19 The EPR process allows for a faster study method to allow these loads to connect sooner  
20 than going through the traditional MTEP process. A similar expedited process is needed  
21 to study new generation that is necessary to serve spot loads added through EPR. ERAS

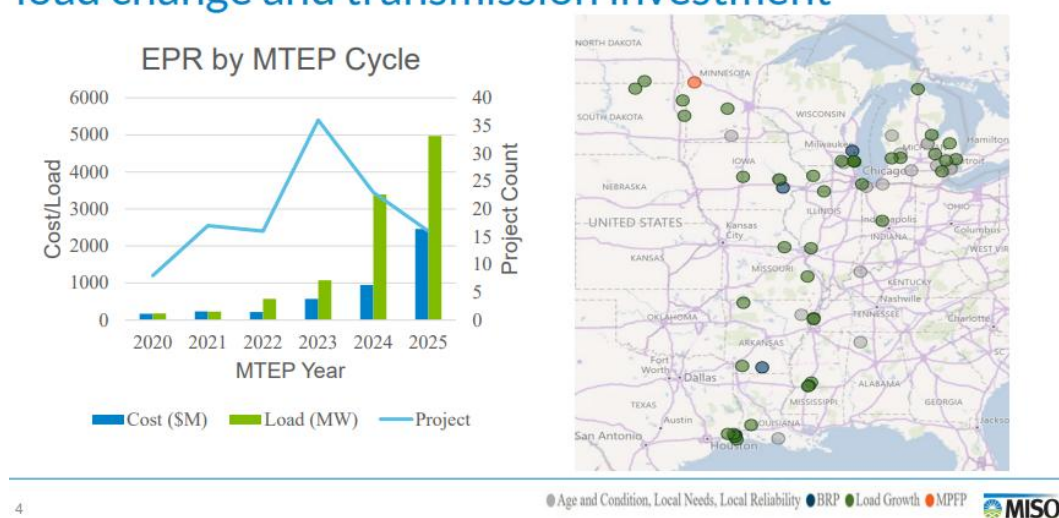
supplies this previously missing and much needed connection that complements the EPR process.

**Q. HOW OFTEN DOES MISO RECEIVE EPRs?**

**A.** In the past, EPRs were comparatively uncommon. However, MISO's most recent data shows a sharp increase in the number of EPRs being submitted in the last few years. As an example, simply comparing the difference from the January PAC Meeting EPR presentation to the current version as of April PAC Meeting EPR presentation, which takes into account the new EPR projects that have recently been submitted, the following figures demonstrate the huge increase and the need for generation to cover this immediate spot load growth.

**Figure 5: January 2025 PAC EPR Presentation<sup>41</sup>**

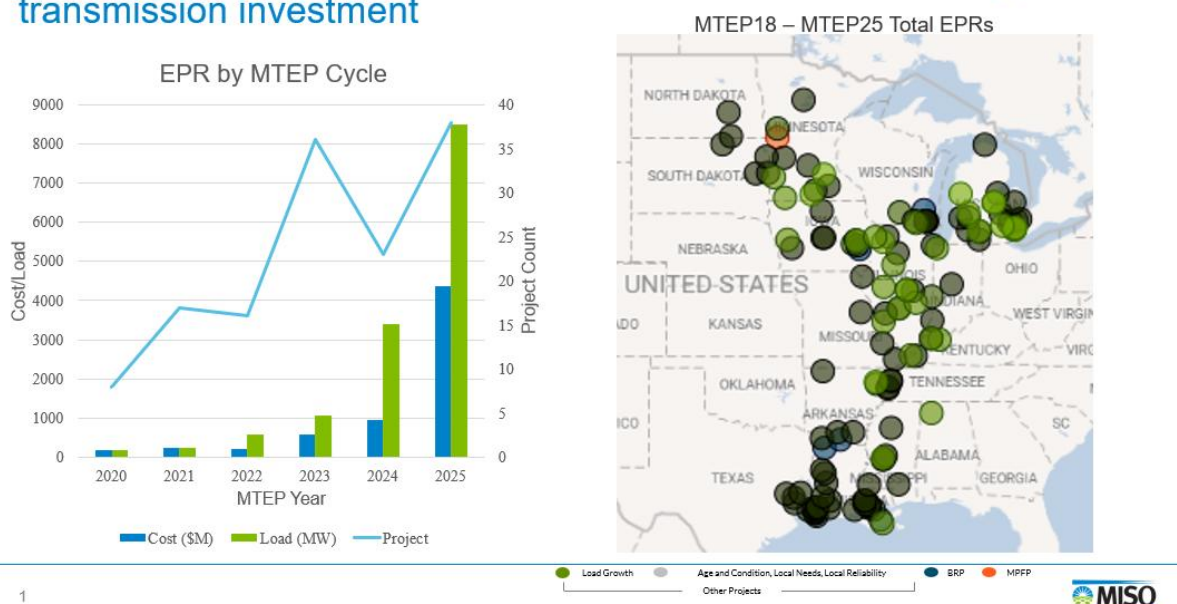
## Individual EPR submittals continue to increase in load change and transmission investment



<sup>41</sup> MISO EPR Process Improvement Update, PAC-2024-1, Planning Subcommittee, Jan. 29, 2025, available at: [https://cdn.misoenergy.org/20250129%20PSC%20Item%20004%20EPR%20Process%20Improvement%20\(PAC-2024-1\)674593.pdf](https://cdn.misoenergy.org/20250129%20PSC%20Item%20004%20EPR%20Process%20Improvement%20(PAC-2024-1)674593.pdf).

Figure 6: April 2025 PAC EPR Presentation<sup>42</sup>

## Individual EPR submittals continue to increase in load change and transmission investment



The data in these figures demonstrates two important trends. First, there has been a substantial increase in the number of EPRs being submitted to MISO. In MTEP 20 and MTEP 21, MISO received only 8 and 17 EPRs respectively. However, MISO has already received more than 38 such requests for MTEP 25. Second, this increase in EPRs is linked to a significant increase in the associated Network Upgrade costs needed to accommodate the EPRs – jumping from an average of \$13.7 million in 2022 to \$175 million so far in 2025 as shown in the graphics above. This is in part because there is insufficient local generation to serve this load.<sup>43</sup> Absent an accelerated process like ERAS, it is unlikely that

<sup>42</sup> MISO Sharing and Coordinating MTEP and DPP to Accommodate Large Loads, PAC 2024-7, Planning Subcommittee, Apr. 23, 2025, available at: [https://cdn.misoenergy.org/20250423%20PSC%20Item%20005%20Sharing%20and%20Coordinating%20MTEP%20and%20DPP%20to%20Accommodate%20Large%20Loads%20\(PAC-2024-7\)692381.pdf](https://cdn.misoenergy.org/20250423%20PSC%20Item%20005%20Sharing%20and%20Coordinating%20MTEP%20and%20DPP%20to%20Accommodate%20Large%20Loads%20(PAC-2024-7)692381.pdf).

<sup>43</sup> A further compilation of some of these projects was recently presented at the April PAC meeting. *Expedited Project Reviews*, Planning Advisory Committee (PAC), Apr. 16, 2025, available at: <https://cdn.misoenergy.org/20250416%20PAC%20Item%20004a%20Expedited%20Projects%20Reviews690477.pdf>.

the generation needed to support spot load will be located in close proximity to the load being added, thus increasing the need for and cost of additional transmission to bring in generation from remote areas.

**Q. WHY IS LOCAL GENERATION PREFERABLE WHEN ADDING LARGE SPOT LOADS?**

**A.** Local generation is preferable when adding large spot loads for multiple reasons. First, local generation will reduce the need for large transmission upgrades to support the new load and generation. Instead of making transmission investments around the remote generation to support the generation exports or making transmission investments to support importing power to serve the load, the load and generation rely on each other and negate the needed transmission investment. Second, there is a limited amount of import capabilities between Local Resource Zones. Relying on generation within the same zone will remove the need to import power from another zone, which benefits and helps all load within the zone. Third, relying on generation within the same zone removes price divergences between the load and generation. The EPR process uses whatever generation it can to support that load addition. ERAS will help reduce network upgrade costs by providing a process to quickly add local generation that the EPR process can rely on. The new LRZ requirement in the refined ERAS process will also ensure that the new generation is local to the resource adequacy and/or reliability need.

**Q. WHY IS ERAS NEEDED TO ADDRESS THE EPR GENERATION SHORTAGE?**

**A.** Some protestors in the original MISO ERAS filing argued that MISO should not attempt to meet the load need by its anticipated need-by date. Instead, they argue that MISO should wait and utilize the existing 53 GWs or more of generation with signed GIAs that are

1 currently delayed in coming online in the time period needed to address the imminent  
2 resource adequacy and/or reliability needs.<sup>44</sup> I have evaluated this approach and have  
3 concluded it is impractical and unreasonable for several reasons.

4 First, the EPR process already includes in its models any generation units with signed GIAs  
5 that may or may not come online in time. Thus, even with MISO taking into account these  
6 GIAs, there is still a local generation deficiency to meet the load need. Second, it is not  
7 reasonable to assume in all cases that generation coming online will meet the specific needs  
8 of emerging spot load. For example, while a superficial glance at the number of units with  
9 signed GIAs may suggest that there is a sufficient number of MW somewhere on the MISO  
10 system, these specific units may not always be sufficient to meet the load need. For  
11 instance, if a data center with a 2 GW load need plans to run continuously (or mostly at  
12 night), the fact that there are 2 GW of uncommitted solar with a near term Commercial  
13 Operation Date is likely insufficient to reliably meet this need. Third, these generation  
14 units with signed GIAs may not be geographically situated in proximity to the spot load  
15 and, due to the nature of their agreements, are precluded from modifying their designated  
16 Points of Interconnection. Finally, there is no guarantee that these units with a near-term  
17 Commercial Operation Date will actually come online by that necessary start date. I have  
18 observed a significant increase in the number of units with GIAs that are not in service by  
19 their Commercial Operation Date and are using or expect to use much of the three-year  
20 grace period allowed by the *pro forma* GIA.<sup>45</sup> In addition, an increasing number of these

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<sup>44</sup> A dashboard of this 50 GW in generation is available in MISO Generator Interconnection COD Report: Overview, last updated June 5, 2025.

<sup>45</sup> *MISO Generator Interconnection COD Report: Overview*, last updated June 5, 2025, available at:  
<https://app.powerbigov.us/view?r=eyJrIjojOTU1ODlhNTktMjZjZC00N2I2LWJhYjMtMDEwOGNmZDM5OD>

units are requesting extensions of their Commercial Operation Date through waivers. These facts lead me to conclude that there is an urgent need for a specialized interconnection process that can deliver highly certain generation that is tailored towards the specific load need and already has some level of commercial arrangement to serve it, on an accelerated basis. Absent the ERAS tool, I expect to see: (1) a continued escalating number of EPR submissions relying on remote generation; (2) increasing Network Upgrade costs associated with EPRs; (3) and instances where load that cannot be served as of the date it plans to come online.

**Q. WHAT CAN BE DONE TO IMPROVE THIS IMPENDING SITUATION?**

A. It is necessary for MISO to establish a new process from the existing that can enable Interconnection Customers to work with RERRAs to identify load needs and work with LSEs or other developers to address them. After working together to develop the best project to address a resource adequacy and/or reliability need, the Interconnection Customers can propose highly certain projects to participate in ERAS and ideally be brought online on an expedited basis to meet the load need. A new process is needed that will enable potential Interconnection Customers to confer with RERRAs and load drivers about urgent reliability or resource adequacy needs; scope and present their proposed projects to the RERRA and need/driver or LSE; and then come to MISO with highly certain projects that can be studied and brought online on an expedited basis to meet the load need. While MISO expects that the vast majority of Interconnection Customers and resource adequacy needs will not require such a process, as they will continue to rely on



1 the DPP queue, MISO still requires a temporary and specialized process to rapidly study  
2 those few projects that are slated to address those critical and urgent needs. MISO cannot  
3 force generation to come online, or cherry pick which generation projects should be  
4 expedited over others. But what it can do is create a pathway for generation that is shovel  
5 ready, slated to meet specific needs that the applicable RERRA has validated, and for  
6 which MISO should study on an accelerated basis. This process should have the guardrails  
7 proposed in this refined ERAS filing to ensure that the process is available to those  
8 critically needed projects with commercial certainty without otherwise becoming a  
9 substitute for the DPP.

10 **C. ERAS and the Affected System Studies Process**

11 **Q. WHAT IS THE PROCESS FOR CONDUCTING ERAS AFFECTED SYSTEM**  
12 **STUDIES?**

13 **A.** The refined ERAS proposal was designed with the expectation that MISO would utilize  
14 existing affected system studies processes. MISO is actively working with multiple seams  
15 partners to develop additional seams procedures to incorporate the ERAS process. MISO  
16 is committed to and planning to be able to deliver those on an expedited basis consistent  
17 with ERAS even before specific processes are addressed and would follow the existing  
18 tariff language and does not prevent MISO from doing this faster.

19 **Q. IS MISO CONTINUING TO IMPROVE QUEUE COORDINATION WITH**  
20 **INTERCONNECTION CUSTOMERS AND TRANSMISSION OWNERS?**

21 **A.** Yes. MISO always seeks proactive continuous improvement of its interconnection queue.  
22 In addition to these proposed Tariff changes, MISO has multiple efforts underway to  
23 enhance the queue experience. Examples of ongoing or completed initiatives include the

1 queue reforms approved in January 2024 to increase readiness, the queue cap approved in  
2 January 2025, implementation of SUGAR software to automate and increase the speed of  
3 the Phase I study, further improvements to the generator interconnection portal which  
4 automates some manual processes in the interconnection application process, and the  
5 Commercial Operation Date tracker, which debuted in early 2025 and provides greater  
6 transparency into the status of future Generating Facilities in MISO.<sup>46</sup> These initiatives  
7 will strengthen Interconnection Customer workflow throughout the Interconnection  
8 Request lifecycle. MISO is coordinating the development of these enhancements through  
9 the stakeholder process and outside vendors. MISO is also working to identify additional  
10 processes and tool improvements to improve the overall DPP process.

11 **Q. WILL ERAS INTERCONNECTION REQUESTS GO THROUGH THE**  
12 **AFFECTED SYSTEM EVALUATION PROCESS?**

13 **A.** Yes. MISO must coordinate the impact of these projects with its existing Affected Systems  
14 partners to ensure they do not cause reliability impacts on non-MISO transmission systems.  
15 The Affected System Studies analysis is an important part of the standing interconnection  
16 process and must be performed as part of this evaluation. Subsequently, where available,  
17 MISO will incorporate the results of the associated Affected System Studies analysis in the  
18 EGIA. For those instances where the results from the Affected System Study analysis are  
19 not available to incorporate, given the accelerated timeframe for ERAS, the results will be  
20 provided at a later date.

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<sup>46</sup> MISO, *SUGAR Implementation* (Mar. 4, 2025), available at:  
<https://cdn.misoenergy.org/20250304%20IPWG%20Item%2005%20SUGAR%20Implementation682016.pdf>  
MISO, *Liaison Report* (Mar. 4, 2025), available at:  
<https://cdn.misoenergy.org/20250304%20IPWG%20Item%2002%20Liaison%20Report681818.pdf>.

1 It should be noted that in the event that the Interconnection Customer withdraws and  
2 terminates its EGIA after execution of the EGIA by all parties or after EGIA is filed  
3 unexecuted, the Interconnection Customer will be liable for the Network Upgrades  
4 documented in the EGIA and corresponding Facilities Construction Agreements or Multi-  
5 Party Facilities Construction Agreements, including those Network Upgrades arising from  
6 the Affected System Study process. This will ensure that MISO will be able to  
7 expeditiously process the shovel ready ERAS Interconnection Requests while providing a  
8 protection mechanism to the existing Affected Systems coordination process.  
9 Additionally, ERAS Interconnection Requests will be subject to JTIQ requirements if they  
10 meet the criteria for inclusion in the JTIQ Screening Group or Participation Group on the  
11 same basis as projects in the DPP. Participation in JTIQ will serve as Affected System  
12 process with the Southwest Power Pool ("SPP").

13 **Q. WILL THE AFFECTED SYSTEM STUDIES BE CONDUCTED IN A CLUSTER?**

14 **A.** MISO will request that these studies be completed on a serial basis, but MISO is unable to  
15 control how an affected system will perform its own studies or on what timeframe. MISO  
16 will explicitly request that these be studied on a serial basis and MISO will transfer ERAS  
17 projects to the affected system serially and not as a cluster in order to enable the affected  
18 system to study the proposed projects serially. At the end of the day, only the affected  
19 system can determine for itself how and when it will carry out these studies. MISO will  
20 work with its seams partners to determine if changes to relative queue priority are necessary  
21 for ERAS. For those seams partners that utilize a close of study phase or decision point to  
22 establish queue priority, MISO will assert a queue priority date of when the ERAS quarterly  
23 study cycle is kicked off.

1   **Q.   DOES REQUIRING ERAS CUSTOMERS TO SIGN EGIAS WITHOUT**  
2       **POTENTIALLY HAVING THE AFFECTED SYSTEM STUDY RESULTS**  
3       **VIOLATE ORDER NO. 2023?**

4   **A.**   No. This is a separate limited process that was created outside the traditional DPP process  
5       and thus is out of scope of Order No. 2023, which is designed for cluster-based studies.  
6       ERAS is not a traditional queue process but is still consistent with the goals of Order No.  
7       2023 which included enabling reforms of current generator interconnection procedures.  
8       Moreover, ERAS project participants are aware of the EGIA requirements prior to  
9       submitting their projects to the ERAS process. As MISO noted in its transmittal letter,  
10      because ERAS is a standalone process, it should be viewed as one large independent entity  
11      variation with a defined rule set rather than individual independent entity variations for the  
12      numerous differences between the cluster-based process outlined in Order 2023-2023-A  
13      and ERAS serial-based study approach.

14               **D. A Transparent ERAS Process**

15   **Q.   WILL MISO PUBLICIZE THE ERAS INTERONNECTION REQUESTS?**

16   **A.**   Yes. MISO commits to transparency in the refined ERAS process due to the critical nature  
17      of these projects. Similar to the EPR process, the ERAS information will be posted on the  
18      ERAS webpage located on the MISO public website, including the name of the  
19      Interconnection Customer that has submitted the ERAS Interconnection Request along  
20      with other details of the ERAS projects.

1   **Q.   WHAT INFORMATION DOES MISO PLAN TO POST ON ITS ERAS**  
2   **WEBPAGE?**

3   **A.**   On the newly created ERAS webpage, MISO plans to publish an informational guide  
4       regarding the requirements and process for participation in ERAS. After the first  
5       submission deadline for an ERAS quarterly study cycle, MISO plans to publish all ERAS  
6       projects that have been reviewed and accepted into the ERAS process. MISO will provide  
7       information similar to that found in its GI Interactive Queue for DPP projects, including  
8       items like the project number, request status, application in-service date, and fuel type.<sup>47</sup>  
9       And as previously explained in my testimony, MISO will additionally publish the non-  
10      confidential summary of the following information supplied by the applicant: the developer  
11      of the ERAS project, details of the need the ERAS project is addressing, what cap carve  
12      out was requested (if applicable), what LRZ region the project is located in, and a general  
13      description of what the load it is serving (i.e., a data center, manufacturing plant, a  
14      reliability need, etc.). MISO is also planning to publish what quarters each of the approved  
15      ERAS projects will be studied in.

16   **Q.   HOW DID YOU ACCOUNT FOR OPEN ACCESS REQUIREMENTS WHEN**  
17   **DEVELOPING THE ERAS PROCESS?**

18   **A.**   The ERAS requirements are facially neutral, fuel agnostic and allow for the potential  
19      inclusion of any resource regardless of technology. These are shovel ready projects to meet

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<sup>47</sup> *MISO GI Interactive Queue*, last updated June 5, 2025, available at:  
[https://www.misoenergy.org/planning/resource-utilization/GI\\_Queue/gi-interactive-queue/](https://www.misoenergy.org/planning/resource-utilization/GI_Queue/gi-interactive-queue/).

1 an urgent resource adequacy and/or reliability need within the MISO footprint. MISO also  
2 expanded who could apply to ERAS to include a wide variety of applicants.  
3 ERAS Interconnection Requests will be subject to more stringent criteria than projects  
4 entering the generator interconnection queue. MISO's ERAS requirements will inevitably  
5 limit entry which strikes a reasonable balance between allowing project developers to help  
6 address the urgent reliability needs of the MISO footprint, while avoiding an influx of  
7 projects that could overwhelm the normal DPP queue and lead to further delays,  
8 exacerbating the current inability of projects to come online.

9 **Q. WHAT ARE THE BENEFITS OF ESTABLISHING AN ERAS PROCESS?**

10 **A.** If the proposed temporary requirements for the refined ERAS process are adopted, MISO  
11 expects to comprehensively address significant near-term resource adequacy and reliability  
12 concerns in the MISO footprint. ERAS is a temporary process designed to help speed up  
13 the time to obtain an executed EGIA so urgent reliability projects can be built more quickly  
14 until the DPP interconnection queue process improved timeliness takes effect. The queue  
15 will remain the standard way to add new resources to the system; ERAS is a temporary and  
16 targeted process to complement the generator interconnection queue process. With ERAS,  
17 MISO will be able to efficiently and effectively address near-term resource adequacy  
18 and/or reliability needs with specific projects that are tied to those needs.

19 **IV. CONCLUSION**

20 **Q. IN YOUR OPINION, IS MISO'S FILING JUST AND REASONABLE?**

21 **A.** Yes. This Filing addresses certain specific needs that MISO, the state Commissions, and  
22 the stakeholder process identified. To ensure that MISO is on the right track to resolving  
23 its resource adequacy shortfall potential, MISO requests that the Commission approve this

1           proposal. The proposed Tariff revisions enable MISO to take the necessary steps to ensure  
2           reliability on the Transmission System.

3   **Q.     DOES THIS CONCLUDE YOUR TESTIMONY?**

4   **A.     Yes, it does.**

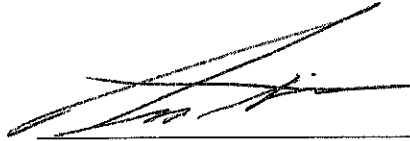
Affidavit of Andrew Witmeier

COUNTY OF HAMILTON )

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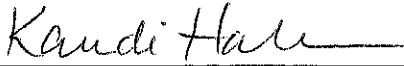
STATE OF INDIANA )

Andrew Witmeier, being duly sworn, deposes and states that he prepared the Prepared Direct Testimony of Andrew Witmeier, and the statements contained therein are true and correct to the best of his knowledge and belief.



Andrew Witmeier

SUBSCRIBED AND SWORN BEFORE ME, this 4<sup>th</sup> day of June, 2025.



Kandi Hahn

