



# Expedited Resource **Addition** Study (ERAS) Proposal

Planning Advisory Committee (PAC)

PAC-2023-1

January 22, 2025

# Purpose & Key Takeaways



## Purpose

Provide an overview to stakeholder feedback and an update to the Expedited Resource **Addition** Study (ERAS) proposal

## Key Takeaways

- MISO received substantial feedback on the ERAS proposal and has provided a response posted to the [MISO website](#)
- Stakeholders expressed both support and concerns regarding the ERAS process, and MISO is carefully considering those comments in its development
- MISO will share the next iteration of the ERAS proposal and Tariff redlines at the February 19 PAC
- The ERAS proposal is intended to be filed at FERC in **mid-March 2025**

# Generally, stakeholders expressed both support and concern, but acknowledged where changes helped to mitigate their concerns

## Consistent themes of support and concern

- ERAS does not address the root cause of delayed commercial operations and other MISO processes are better alternatives
- ERAS development has been rushed and has not allowed for the consideration of stakeholder feedback
- MISO needs to prove that ERAS will not negatively harm Generator Interconnection Queue (GIQ) projects
- Automatic Withdrawal Penalties (AWP) could be counterproductive
- Mixed feedback on the 6-year Commercial Operation Date (COD) proposal
- MISO should develop a scoring criteria, like that used by California Independent System Operator (CAISO), to screen projects
- MISO should spend time explaining:
  - Risks of finishing Affected System Studies (AFS) post-Expedited Generation Interconnection Agreement (EGIA)
  - What it meant by “and other Interconnection Customers (ICs) where applicable” in that last presentation
  - The state/RERRA acknowledgement process and how it should be flexible to account for diversity of state laws, etc.

# Stakeholder feedback has been considered and worked into the proposal where appropriate

## Automatic Withdrawal Penalties

- Projects that drop out of the DPP process to enter ERAS will be subject to Automatic Withdrawal Penalty and Harm Penalties<sup>1</sup>
- Penalties recognize the quantifiable harm and unquantifiable uncertainty withdrawn projects imposed on projects that remain in the GIQ
- Projects that withdraw from ERAS will not be subject to these penalties because harm is not done due to the nature of the study

## Commercial Operation Date

- MISO believes 3 years is a reasonable timeframe to bring a resource online
- The pro forma GIA, the basis for the EGIA, allows for a 3-year grace period, giving ERAS participants a total of 6 years to bring projects online; the pro forma GIA will not be edited for this process

## Scoring Criteria / Checklist

- The CAISO scoring criteria selects projects for review; ERAS is not a queue process and projects seeking to use it will have already received acknowledgement from the state/RERRA
- Scoring criteria is not necessary for the MISO process
- MISO has prepared a checklist for ERAS participants that outlines all requirements that need to be met at the time of application

## MISO Alternatives / Addressing the Root Cause

- ERAS is another tool in the toolbox to address reliability and resource adequacy concerns across the MISO region
- Unlike other MISO processes, ERAS allows projects to receive a pro forma GIA in ~3 months, significantly shortening the amount of time between submission and COD
- MISO has no control over most causes of COD delay but can offer ERAS as an avenue of assistance in the near-term

# MISO continues to refine the ERAS proposal

## **Name Update: Expedited Resource *Addition* Study**

- The new name is in response to the trend of spot load additions driving the need for an ERAS process to supplement current MISO processes
- The queue will remain the standard way to add new resources to the system; ERAS is a temporary and targeted process to complement this process

## **Sunset Date**

- MISO believes 3 years is appropriate
- It allows time for the GIQ to reach a 1-year timeline
- It also provides another avenue to timely meet reliability and resource adequacy needs
- December 31, 2028, sunset will be memorialized in the Tariff

## **State/RERRA Acknowledgement**

- MISO is collaborating with OMS on the RERRA acknowledgement that will apply, including participation in OMS committee and working group meetings

## **Filing Date**

- Extending the filing date to mid-March to provide additional time for stakeholder discussions and feedback

## **Ongoing Consideration**

- MISO continues to contemplate what guardrails or additional entry requirements are appropriate for the process
- How Interconnection Customers (ICs) outside of Load Serving Entities (LSEs) can participate when their projects are designated to serve new spot load additions

# Attachment X redlines will be provided at the February 19 PAC and will cover the following:

## **Definition of Expedited Resource Addition Study**

- Section 1. Definitions
- Appendix 6 - Definitions
- Section 3.9.1 The product

## **Application Requirements**

- Section 3.9.2 Requirements for Expedited Resource Addition Study

## **Request evaluation procedures**

- Section 2. Scope and Application
- Section 3.9.3 Evaluation Process for Expedited Resource Addition Study

## **Study Scope and process**

- Section 3.9.4 The Study
- Section 3.9.5 Notice to Proceed

## **Deposit and milestone requirements, refunds and withdrawal**

- Section 3.3 Valid Interconnection Request
- Section 3.3.1 Initiating an Interconnection Request
- Section 3.9.7 Expedited Resource Addition Study Refunds
- Section 3.9.7.1 Refunds of Expedited Resource Addition Study Deposits D2
- Section 3.9.7.2 Refunds of Expedited Resource Addition Entrance Milestone (M2)
- Section 3.9.7.3 Applicability of Expedited Resource Addition Milestone Payment (M2) to Expedited GIA Payment
- Section 3.6 Withdrawal

## **Transferability and Modification**

- Section 3.9.8 Transferability of Expedited Resource Addition Study request
- Section 3.9.9 Modification of Expedited Resource Addition Study request

## **Generator Interconnection Agreement**

- Section 3.9.6 GIA for Expedited Resource Addition Study Projects (EGIA)

## **Sunset of ERAS process**

- Section 3.9.10 Sunset of Expedited Resource Addition Study process

MISO is finalizing a comprehensive checklist of ERAS project requirements, detailing all necessary documentation, financial, and technical information applicants must submit

## Requirements include the following:

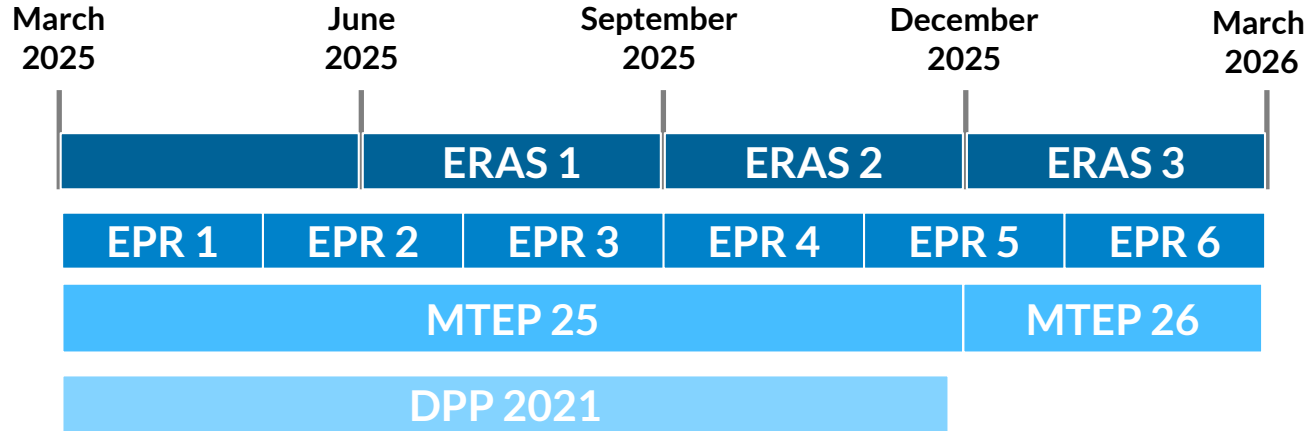
- ☑ D1 = non-refundable \$100,000
- ☑ M2 = \$24,000/MW
- ☑ 100% site control (site and POI)
- ☑ RERRA acknowledgement
- ☑ Commercial Operation Date 3 years from submission
- ☑ Technical requirements:
  - Synchronization Date
  - Commercial Operation Date
  - Interconnection Facilities In-Service Date
  - Service Type (NRIS)
  - Generator Output
  - Primary Fuel Type
  - Generator Manufacturer & Model Number
  - Library Stability Model
  - One-Line Diagram
  - Generating Facility Data
  - Step-Up Transformer Data

# ERAS projects are still subject to affected system studies coordination and existing processes will determine applicability

- Neighboring systems will continue to have the right to evaluate the impact of an ERAS project on their system
  - Order 2003 and Order 2023 set priority based on submission time
  - JOAs and other agreements, where applicable, set priority based on completion of first studies
  - MISO is discussing with SPP the ability to prioritize each others' ERAS projects first
- ERAS projects that meet the JTIQ criteria will be subject to JTIQ
- AFS study results may not be available during EGIA process
  - Where available, AFS Network Upgrades will be documented in the EGIA
  - Where Affected Systems analysis is not available for inclusion in the Final EGIA, EGIA will continue to be executed by all parties and MISO shall provide such analysis when received from the applicable Affected System
    - Interconnection customer will execute EGIA and agree to AFS

# The ERAS process will kickoff quarterly starting June 2025 and will integrate with existing processes without disrupting those ongoing studies

- ERAS 1 study will include EPR 1 projects
- ERAS 2 study will include EPRs 1, 2, & 3 projects
- MTEP26 model will include ERAS 1 & 2 projects, EPRs 1-4 study projects, and DPP 2021 projects that went to GIA
  - This will be the first time all projects are included in one MTEP model
- DPP 2021 utilizes the MTEP20 base case
  - Approved MTEP projects after MTEP20 can be used as mitigation per BPM 15, Section 6.1.1.1 for Interconnection Requests in the 2021 cycle, including upgrades associated with approved ERAS projects
  - This is true for all cycles (e.g. approved projects after MTEP21 can be used as mitigation for 2022 cycle projects, etc.)



The other DPP cycles (2022, 2023) are also ongoing; DPP 2025 expected to kick off in September 2025

The MTEP base case models utilized for DPP cycles are not updated once a DPP cycle has kicked off; DPP 2026 will be the first queue cycle with ERAS projects in the base case



**DPP 2026 will contain all approved ERAS, EPR, MTEP, and DPP projects studied and approved between June 2025 and September 2026**

# MISO anticipates implementing ERAS after receiving FERC approval

Date	Action
January 22, 2025	PAC: Updated ERAS proposal presentation
February 19, 2025	PAC: Final ERAS package presentation with Tariff language, feedback will be requested
March 3 or 7, 2025	Potential special PAC meeting
Mid-March 2025	FERC filing
June 1, 2025	Requested effective date

# Contact Information

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Questions?

# Appendix

MISO is proactively improving the manageability of its Queue to provide a critical path to timely resource approvals, but it may take several years to reduce queue processing to a one-year timeframe

### FERC Order 2023 Compliance

- Addressed queue backlogs, improved certainty and prevents undue discrimination for new technologies

### Other Reforms and Improvements

- January 2024 reforms
- Queue Cap planned for 2025
- Phase 1 automation planned for 2025

### Current Queue

- Cycles take 3-4 years
  - Late-stage dropouts from 2020-2022 require restudies and prevent processing of later cycles
- GIAs are required now for projects aimed at meeting resource adequacy needs in the next 3-5 years

# The ERAS process is a short-term solution with inherent barriers to entry

## TIMING

- ERAS will be available until **December 31, 2028**
  - The sunset date will be memorialized in the Tariff
  - MISO believes ERAS needs to be a temporary solution to obtain FERC support
  - Delay Penalties associated with Order 2023 will be implemented with the 2028 queue cycle following three transition cycles (i.e. 2025, 2026, 2027), reducing the queue cycle time to one year

## INHERENT BARRIERS

- Localized resource adequacy need
- Generator's ability to meet that need
- State recognition of the project and resource adequacy need
- Public notification of Interconnection Customer (IC)'s ERAS project and its associated RERRA acknowledgment

# Projects using the ERAS process must meet several new requirements; MISO continues to work with OMS on the level of involvement with the RERRA

Requirement	Details
Load Serving Entities (LSEs) and other ICs, where applicable, can submit new projects that need to be commercially operable in the next 6 years	<ul style="list-style-type: none"><li>• Application/GIA COD would be within 3 years of the submission and Section 2.3.1 of the pro forma GIA will provide the additional 3-year grace period</li><li>• Replacement projects seeking additional capacity are also eligible</li></ul>
Projects must be recognized by the state or RERRA as ERAS-eligible	<ul style="list-style-type: none"><li>• MISO is working with OMS to determine what documentation is necessary to demonstrate resource is eligible for ERAS</li></ul>
Projects must be under consideration by their RERRA	<ul style="list-style-type: none"><li>• Project are being evaluated by the RERRA in their relevant process (e.g., CPCN)</li></ul>
ERAS Projects must meet capacity resource requirements	<ul style="list-style-type: none"><li>• ERAS projects must request Network Resource Interconnection Service (NRIS)</li></ul>

# Provisional GIA requirements serve as a baseline for the ERAS project criteria

Amount of new Interconnection Service and/or Interconnection Rights requested (MW)	Study Deposit (D2)
< 6 MW	\$50,000
≥ 6 but ≤ 20 MW	\$120,000
> 20 but ≤ 50 MW	\$180,000
> 50 but ≤ 100 MW	\$270,000
> 100 but ≤ 200 MW	\$320,000
> 200 but ≤ 500 MW	\$420,000
> 500 but < 1000 MW	\$530,000
≥ 1000 MW	\$640,000

- Non-refundable application fee, D1, will be \$100,000
  - Greater D1 minimizes speculative projects and negates the need for a withdrawal penalty from ERAS process
  - Higher D1 is necessary to implement the temporary ERAS process; will be used toward costs related to processing ERAS (tools improvement, additional staffing, etc.)
- Milestone M2 = \$24,000/MW
- 100% Site Control (Site and POI) for ERAS projects upfront
- D2 Study Deposits will mirror current D2 requirements in the DPP process
- Applicants transferring from the GIQ will be permitted to apply any remaining DPP process funds toward the ERAS required payments (if both project are submitted by the same entity)
- No withdrawal penalties for ERAS projects that do not sign an EGIA

# ERAS will have no withdrawal penalties while DPP penalties will continue

DPP has two types of penalties: Automatic Withdrawal Penalty (Attachment X, Section 7.6.2.1.1) and Harm Penalties (Attachment X, Section 7.8)

- These penalties recognize the quantifiable harm and unquantifiable uncertainty withdrawn projects imposed on projects that remain in the queue, and how that impact increases the later the withdrawal occurs
- ERAS projects will generally be studied in serial mode or in very small clusters and will not have phases
  - A serial study means no other projects will be included in the study, so a withdrawal does not negatively impact any other project
  - Because the ERAS process is not comprised of multiple phases, final study results will be based solely on the projects remaining in the cluster if a project drops out of a small cluster

If an ERAS project drops out after GIA, the ERAS customer will still be responsible for any network upgrades memorialized in a Facilities Agreement

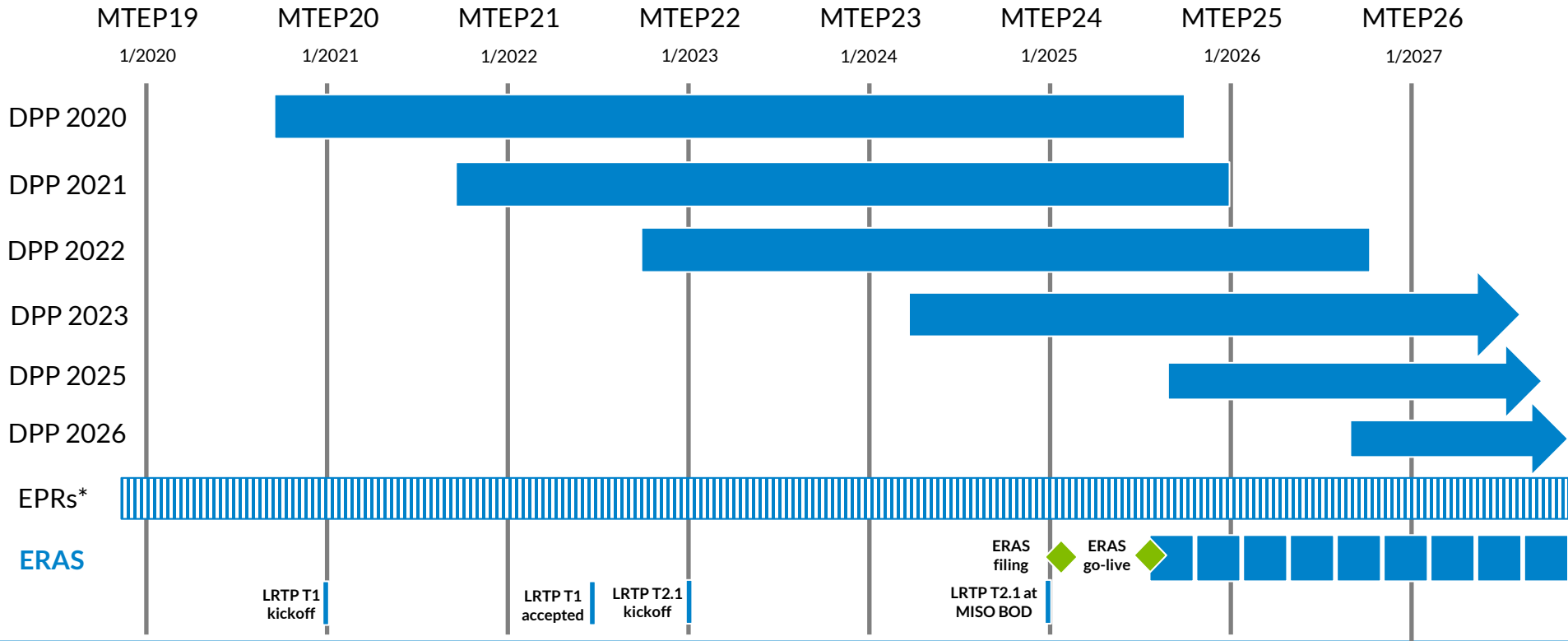
## Existing projects in the queue will be eligible to transfer to ERAS, with consideration given to projects' needs and potential impact on the queue

- Projects currently in the 2023 cycle and projects in later cycles that have not reached Decision Point 2 can transfer into the ERAS process
- All projects withdrawing from the DPP process and entering ERAS will be subject to all existing penalties and harm calculations as outlined in the Tariff
  - Dropouts after Decision Point 2 result in unscheduled Phase 3 restudies, thereby contributing to main driver of ongoing queue delays
- Tariff language will prevent projects from dropping out of the queue after Decision Point 2 and entering ERAS until at least one year after dropout
  - Site Control for the generating facility itself will be used to validate applicability
- Any dropout would not be allowed back into their existing queue cycle

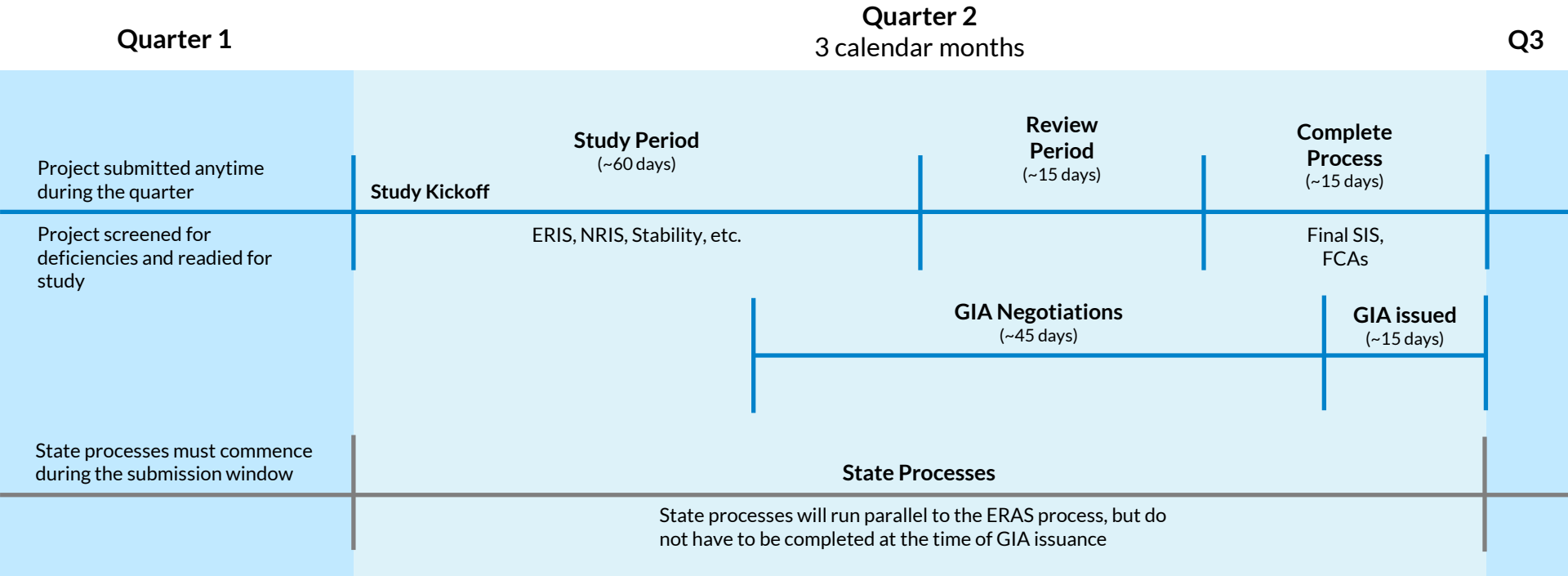
## ERAS, EPR<sup>1</sup>, and DPP<sup>2</sup> studies will be coordinated to maximize efficiency and reduce impact on each other

- The base case for MTEP<sup>3</sup>, EPR, and ERAS projects is updated with all GIAs approved to date
  - Models are trued up at the start of the next MTEP or DPP cycle with approved projects to date
- Approved MTEP projects can be utilized for constraint mitigation in DPP, EPR, and ERAS project studies
  - Similarly, upgrades approved for EPR or ERAS projects can be used to mitigate constraints in ongoing DPP cycles
  - Network Upgrades 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 (BPM 15, Section 6.1.1.1)
- The MTEP base case model for each DPP cycle is not updated once the study is kicked off
  - ERAS projects will not take away transmission capacity for ongoing DPP cycles as the base case is not updated
- Congestion not visible due to approved projects from MTEP, DPP, EPR, and ERAS not being included in the same study will show up and be mitigated in the next MTEP or DPP cycle

# The ERAS process will kickoff quarterly starting June 2025 and will integrate with existing processes without negatively impacting those ongoing studies



# ERAS studies will be completed and GIAs will be issued in 3 calendar months



Study will consist of stability, short circuit, voltage analysis, and IC Interconnection Facilities

# ERAS projects will adhere to standard MISO practices where applicable

- ERAS applicants will use the same online application portal as all Resource Utilization applicants (i.e., DPP, Replacement, Surplus, Att. Y)
  - Must submit all relevant application information and modeling data
  - Upon study kickoff, projects will be assigned an E number
  - All studies performed in standard interconnection processes will be performed
- Projects will know the cost of their MISO networks upgrades at the completion of the study process, eliminating the need for a PGIA
  - Projects will be issued an Expedited GIA, or EGIA, which utilizes the pro forma GIA
  - Projects issued an EGIA will have the same amount of time to complete construction as projects in MISO's interconnection queue, per Section 2.3.1 of the pro forma GIA