



# FERC Order 2222- MISO Proposal v2

IPWG

July 13, 2021

# Executive Summary



## Purpose:

MISO's updated proposal to stakeholders on the interconnection process for Order 2222

## Key Takeaways:

- O2222 requires that DER Aggregators will connect through Relevant Electric Retail Rate Authority/state interconnection processes, and that the ISO/RTO will defer to the RERRA/state process
- DER Aggregators will then register for market access with MISO and attest they have met all interconnection requirements
- Electric Distribution Companies and Relevant Electric Retail Rate Authorities have responsibility for approving DER interconnection



## MISO is working through FERC's Order 2222 response

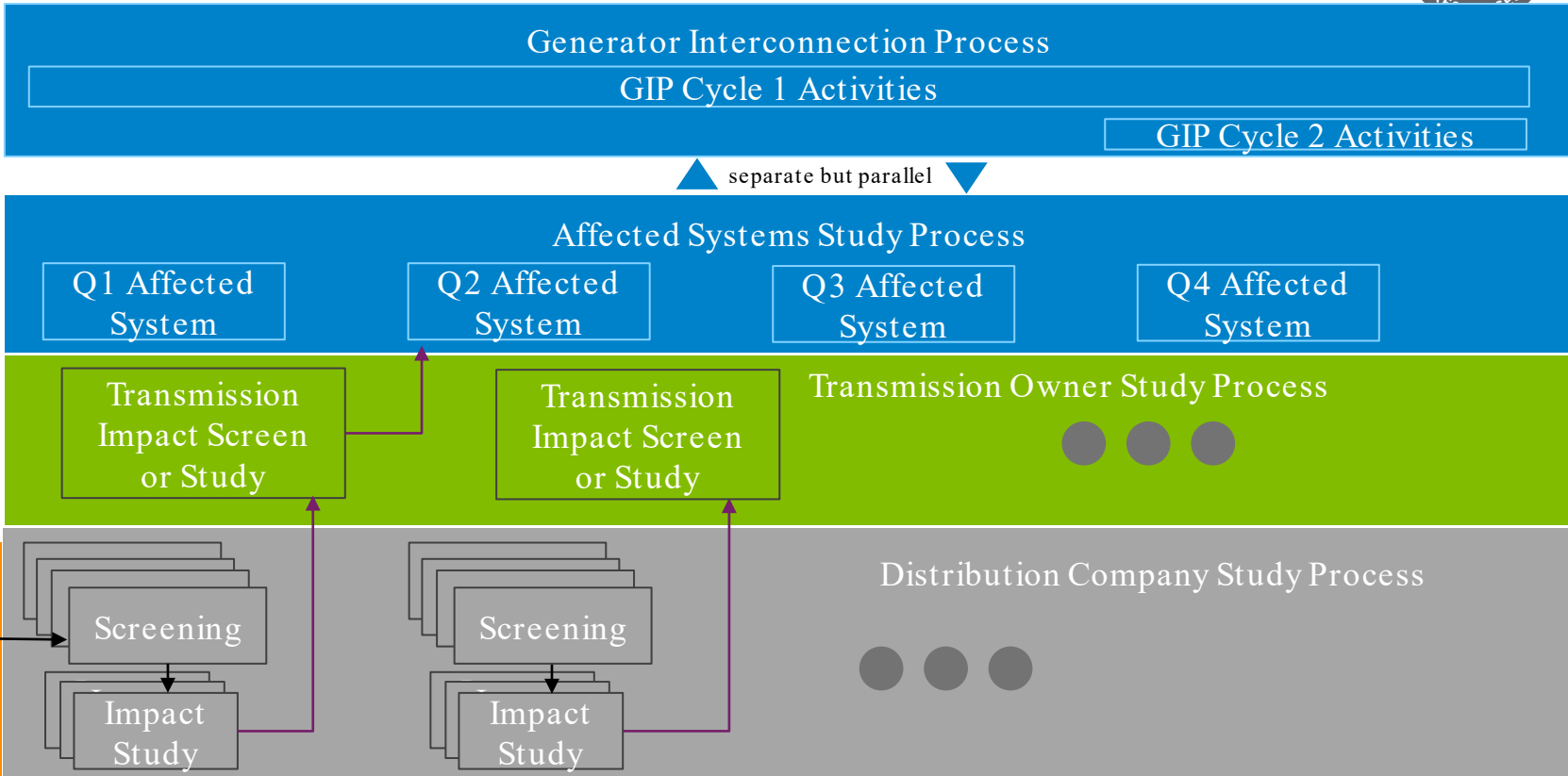
- FERC Order 2222 directs the ISO/RTO's to edit our tariff to **remove barriers to participation** for DER aggregations in the ancillary services, energy, and capacity markets. The Order was issued on September 17, 2020 and MISO's compliance filing is due April 18, 2022
- Coordination is required between RTO/ISO's, local utilities, and state regulators - MISO will create a "coordination framework" for interaction with Relevant Electric Retail Regulatory Authorities (RERRAs), Electric Distribution Companies (EDCs), and DER Aggregators (DERAs) – including both documented procedures and operating agreements. A meeting with RERRA's is coming up on July 28, 2021.
- This Order is managed primarily through the stakeholder process in the Market Subcommittee (MSC) and stakeholders have created a DER Task Force (DER TF) which meets monthly. Individual issues have been "spun off" from the DER TF efforts to be discussed in detail with knowledgeable stakeholders – interconnection and capacity accreditation are addressed in the IPWG and the RASC. IPWG will pass the recommendation to the DER TF in September 2021
- The compliance filing due on April 18 will not include Business Practices Manual-level details. An **outline** of the process is required for this compliance filing, and additional detail will be established before the implementation of Order 2222.



# Proposed Principles for DERa Interconnection

- EDC interconnection approval is a prerequisite for wholesale aggregation registration.
- DER or DERa will not enter the MISO queue, but needs to be coordinated:
  - Threshold for affected systems study
  - Timing and frequency of studies
  - Coordinating study assumptions and results

# The transmission (MISO) and distribution (state) processes



The RERRA defines applicable interconnection process and technical requirements

Adapted from MISO's [Interconnection Policy Working Group Presentation, May 25, 2021](#)





## DER growth in the MISO footprint offers multiple related interconnection issues

A

DER aggregations on the distribution system access the wholesale markets (FINANCIAL)

B

DER's will connect to the distribution system and participate wholesale markets, and inject power into the distribution system which reaches the transmission system (PHYSICAL)

- We will discuss only A and B in relation to Order 2222
- While issue C is important, it is beyond the scope of Order 2222

C

DER's will connect to the distribution system and participate only in retail programs, but may inject power onto the transmission system (PHYSICAL)

# Stakeholder Comments- 1



Topic	Comment	MISO response
Jurisdiction	EDC [and RERRA] has [have] sole jurisdiction to define interconnection requirements	Confirmed.
TO Agreement	MISO is the entity with the authority to assess impact on injections on the transmission facilities of Transmission Owning Members	A DER by definition is located on the distribution system, and the interconnection request will originate with an EDC. Not all EDC's own transmission, and the interconnection request must pass to the relevant Transmission Owner; there is no path for an EDC to contact MISO directly and bypass the TO.
TO agreement	How will transmission studies be performed, with MISO models or with TO models?	The process is assumed to use a similar study process (and models) as existing Affected System Studies.
Registration	MISO should ensure the DERA attestations are accurate by checking on the underlying agreements	MISO's tariff allows for penalties in the event of inaccurate attestation, up to and including disqualification from market participation.

# Stakeholder Comments- 2



Topic	Comment	MISO response
Scope and Study	Distribution-level interconnection is with an individual DER, not an aggregation	Agreed; there is a distinction between the DER interconnection study and how the aggregation as a whole may act on the distribution system. This is further complicated because the DERa will be fluid, and assets must be editable within an aggregation. This will be addressed further in the DER Task Force during the discussion on registration and enrollment.
Study Process	MISO should handle payment and invoicing for affected system studies with individual DERs	MISO will have no contractual relationship with individual DERs; the EDC and often TO own the interconnection process for the distribution system. The DER is not connecting to a system controlled by MISO, and our tariff does not include language for study of distribution-connected assets in any event. The EDC has the data required to know what the power flow from potentially multiple DER will be.
Study Process	Requesting clarification on how the studies will be paid for	The cost of study for interconnection is usually borne by the interconnecting party. This will not be a MISO process.



# Stakeholder Comments- 3



Topic	Comment	MISO response
Study Process	At what point might DERA's have a significant enough impact to be reflected in the GI and DPP phases?	MISO is open to revisit this topic as we see additional DER enter the system. This is a good question, without an immediate answer.
Graphic	The A, B, C graphic should include the potential for storage assets which can withdraw or inject.	Withdrawal from the transmission system is the status quo, the backfeed is the "new" feature for which a process does not exist and must be defined. <i>Q: Is there any process for withdrawal study by an EDC which should alter the transmission study process?</i>
Scope	Any resource connected to the distribution system that has the potential for backfeed should always trigger an evaluation by MISO	This is the intent of describing A, B, C boxes; Order 2222 is centered on wholesale-market-participating assets; MISO agrees that DER on the distribution system may need review in any backfeed case. There will be additional work required to address non-market-participating DER.

# Stakeholder Comments- 4



Topic	Comment	MISO response
Study Process	5MW threshold for triggering an affected system study is not appropriate; the threshold should be based on the potential for injection <i>NOTE: +/-200kVa is suggested as a guide by commenter</i>	The threshold for an affected system study is anticipated to be determined by the Transmission Owner. The TO is the party who can determine if there will be backfeed and the potential for system effects. This is unlikely to fit a single MW threshold, as the configuration of distribution and transmission equipment in the substation and the topology of the area will determine potential impacts.
TO Agreement	MISO is the entity with the authority to assess impact on injections on the transmission facilities of Transmission Owning Members	A DER by definition is located on the distribution system, and the interconnection request will originate with an EDC. Not all EDC's own transmission, and the interconnection request must pass to the relevant Transmission Owner; there is no path for an EDC to contact MISO directly and bypass the TO.
TO Agreement	How will transmission studies be performed, with MISO models or with TO models?	The process is assumed to use a similar study process (and models) as existing Affected System Studies.

# Stakeholder Comments- 5



Topic	Comment	MISO response
Study Process	MISO should include to EDC's the features of what studies should entail	MISO is not in the best position to dictate all aspects of the DER studies to be performed, though coordination on affected system studies is routine.
Communication	MISO's plan should elaborate on the communication between the EDC, TO, and MISO	Agreed, and coordination of the communication will also be addressed in the DER Task Force registration and review processes as well as the Coordination Framework sessions.
Visibility	MISO should ensure it understands the visibility and metering that will be necessary to make full use of DERA's	Agreed, metering and telemetry as well as reliability in operations are addressed in the DER Task Force. Specifically in January 2021 MISO's DER TF will focus on reliability to ensure we have clarity in the planned compliance filing, and that there are no gaps in understanding of how reliability can be assured.



## Links to documents

- A copy of Order 2222 can be found [here](#)
- DER Task Force page is found [here](#)
- Integrated Roadmap item [IR070](#) – Order 2222 Compliance
- Current guidance for distribution interconnection [here](#)



## IPWG discussion

Recommendations from this working group will be brought back to the DER Task Force for discussion, and conceptual design will be presented to the Market Subcommittee for a final round of comments

- IPWG March 16 – Introduce the issues for O2222
- IPWG April 26 – Discuss stakeholder thoughts on how MISO should change process
- IPWG May 25 – MISO proposal for interconnection changes re: O2222
- ★ **IPWG July 13 – Discuss stakeholder thoughts and version 2 of the proposal**
- IPWG September – Final recommendation from IPWG
- DER TF will review Interconnection in October & November 2021
- MSC will review final Conceptual Design for Interconnection in December 2021



# Feedback Request

- MISO requests any initial responses to questions and to request stakeholders provide any additional questions for the IPWG regarding FERC Order 2222 version 2 proposal by August 3, 2021
- All feedback requests are posted to the Stakeholder Feedback Page and stakeholder comments are submitted through the feedback tool:  
<https://www.misoenergy.org/stakeholder-engagement/stakeholder-feedback/>  
(under Interconnection Planning Working Group)





Questions?



# Current practice for distribution connected resources

## 1. Interconnection only

- Attachment X of the MISO Tariff only covers requests for interconnection to the Transmission System that are listed on the MISO Transferred Transmission Facilities (MISO TTF) list.
- Interconnection requests for facilities connecting to distribution system or non-MISO transmission system (i.e. not listed on MISO TTF) should be made to the owner of those facilities (Facility Owner).
- Coordination is required between the Facility Owner, the impacted Transmission Owner, and MISO.
- If Network Upgrades are required on the Transmission System, then the Facility Owner should condition the interconnection upon the construction of those Network Upgrades based on good utility practice.

## 2. MISO energy and ancillary service market only

- In addition to Number 1 above, Interconnection Customer should register as a Market Participant (MP) with MISO and meet all requirements to participate in Energy and/or Ancillary Service markets

## 3. Planning Resource Auction

- Resource has to meet the requirement in 1 & 2
- Resource has to be studied as deliverable through either Obtain External Network Resource Interconnection Service (E-NRIS) or firm transmission service to the load through either Point-to-Point transmission service or Network Integration Transmission Service (NITS)