PJM and MISO Interregional Transfer Capability Study (ITCS) FAQ

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Study Overview:

1. **Why are PJM and MISO performing an Interregional Transfer Capability Study?**

   PJM and MISO have an Order 1000 compliant planning process and have performed interregional planning coordination under that agreement for more than decade. Largely, this coordinated transmission planning has sought to address economic needs. This study is a first step towards further improving the interregional planning processes between MISO and PJM, including as the two RTOs work towards FERC's Order No. 1920 compliance. The study uses long-term planning models and a variety of analyses to identify a broad range of needs near the seam. The study aims to identify potential near-term upgrades to incrementally enhance the transfer capability between the two RTOs and identify process enhancements and governing document revisions, together with stakeholders, to pursue long lead upgrades (i.e., with a lead-time of at least 6 years), including greenfield development. This interregional planning effort will help identify potential transmission projects that could improve the system's ability to mitigate constraints, respond to extreme weather and increase interregional transfer capability.

2. **What are the objectives PJM and MISO are trying to achieve with this ITCS effort?**

   The study will serve to:
   - Identify transfer, reliability and economic needs along the seam
   - Identify potential solutions to these needs with a focus on increasing transfer capability
   - Create opportunities for new lessons learned on interregional planning
   - Partner with states and stakeholders to identify and pursue JOA/Tariff adjustments as needed to implement solutions and further improve joint planning processes

3. **What are the drivers for performing the ITCS outside of a Coordinated System Plan (CSP)/Joint Operating Agreement (JOA) process?**

The MISO-PJM Joint Operating Agreement (JOA) and Coordinated System Plan (CSP) language prescribes which issues should be evaluated and certain methods to evaluate them. Furthermore, resulting project types and cost allocation are prescribed. Performing the study outside of the existing CSP framework allows the RTOs to consider a broader set of assumptions, including policies, identify a variety and new type of needs (economic, reliability, transfer, extreme weather), allowing identified needs to drive new project types and cost allocation as appropriate. Although being conducted outside the JOA/CSP process, PJM and MISO will have to follow or potentially modify their respective planning processes to act on study results.

4. **How is this study different from the NERC study?**

   This study is complementary to the NERC Interregional Transfer Capability Study. The NERC study is intended to identify and maintain an interregional transfer baseline objective. The goal of the PJM and MISO ITCS is to identify opportunities to enhance transfer capability on an incremental basis. Therefore, this study is independent and supplemental to the other industry studies.

Scope:

5. **In the past, MISO has used "informational" to describe transmission studies that will not necessarily result in project recommendations. Is this the case here, or do MISO and PJM envision recommending projects?**

   The RTOs intend this study to provide a pathway to increase transfers between the two systems through near-term enhancements. However, prior to seeking approval for any enhancements recommended in this study, each RTO must follow established planning procedures unique to each RTO for recommending enhancements for approval. After performing the study and identifying needs and potential solutions that the RTOs are interested in pursuing, the RTOs will either leverage existing planning processes to take action or explore opportunities to develop and seek approval of new processes (including potential governing document revisions). Such procedures will include engaging with stakeholders as appropriate.

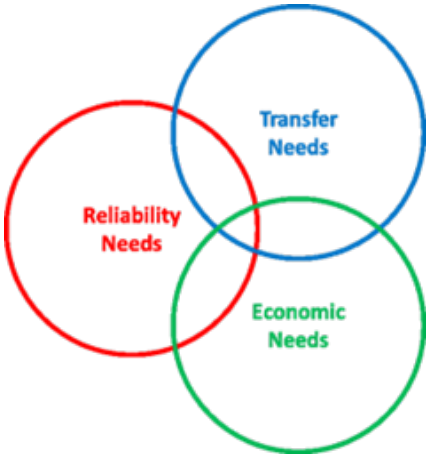
6. **What types of analysis will the RTOs perform?**

   The RTOs will perform reliability, economic, and transfer analysis and consider normal and extreme weather conditions. The below reference figure shows the interfaces that will be analyzed in transfer analysis.

Interfaces considered for transfer analysis

7. **What needs and solutions will the study consider?**

   The study will holistically evaluate needs including those related to reliability, economic efficiency and transfer capability. The RTOs will identify potential near-term enhancements to existing facilities to incrementally increase the transfer capability between the two regions, such as reconductoring lines or upgrading terminal equipment.



8. **Why will the RTOs not consider greenfield solutions in this study?**

   This study will focus specifically on near-term solutions as described in the previous question. PJM and MISO agreed to scope the study in this manner to serve as a productive initial step toward larger-scale and longer-term interregional planning. The RTOs believe these solutions will prove more attainable as they identify and work through needed JOA revisions and process changes with stakeholders. The RTOs hope the success of this initial ITCS will prove valuable and lay the foundation to build a framework for future long-term planning efforts along the PJM-MISO seam, including those guided by FERC Order 1920.

Models and Assumptions:

9. **What is the distinction between "coordinated modeling" and "joint modeling?" And, is this the first time the RTOs will try their hand at either of those, or has that been done before in MISO-PJM joint planning?**

   Coordinated modeling does not mean joint modeling. The RTOs are coordinating models and assumptions closely and exploring future opportunities for model enhancements along the seams. MISO began its study analysis using its LRTP 2032 Future 2A Reliability and Economic Models. PJM developed a "blended model" for study purposes described later in this section. This blended model reflects combined RTO future assumption sets. Analysis will be performed using both RTOs' models**. Coordinating assumptions, models and creating coordinated/blended models requires dedicated time and focus from the respective entities. The industry does not provide "ready-to-study" coordinated/blended models, RTOs must work together to develop such models. MISO and PJM will share lessons learned regarding model blending and its use interregional planning.**

10. What is the study horizon?

The study will use a 2032 horizon.

11. What models will be used and what policy assumptions will PJM and MISO make in the models?

The RTOs plan to closely coordinate on assumptions and methods. MISO will use models built on its Future 2A 2032 assumptions (See Series 1A Futures Report). The economic and reliability models are the same reference cases being used for LRTP Tranche 2.1. Future 2A incorporated 100% of utility Integrated Resource Plans (IRPs) and announced state and utility goals within their respective timelines. These assumptions represent an effective 80% carbon emission reduction from 2005 levels by 2032 and 96% by 2042. Future 2A also introduces an increase in electrification, driving an approximate 0.8% annual energy growth rate.

PJM has developed a model that blends MISO F2A models for MISO's footprint and PJM long-term planning assumptions for PJM's footprint.
Specifically, for PJM's footprint, this blended model uses:

- The 2023 Regional Transmission Expansion Plan (RTEP) topology with 2022 RTEP Window 3 solutions
- PJM 2024 official Load Forecast
- Retirements due to federal regulations and states' laws based on the Independent State Agencies Committee (ISAC) workbook
- Sufficient replacement generation or storage for resource adequacy (i.e. to meet 1-in-10 Loss of Load Expectation) selected from interconnection requests and withdrawals using capacity expansion techniques with consideration of policies, such as renewable portfolio standards, based on the ISAC workbook.

12. Will the models include MISO's LRTP Tranche 1 and Tranche 2.1 projects?

Tranche 1 facilities were approved by the MISO Board of Directors in July of 2022 and have begun regulatory approval processes. Anticipated in-service dates of LRTP Tranche 1 facilities fall within the 2032 study horizon and therefore will be included for purposes of this analysis. Tranche 2.1 has not yet been approved by the MISO Board of Directors and the anticipated in-service dates are beyond the 2032 study horizon. Base models for the ITCS do not include the final Tranche 2.1 portfolio; however, upon approval of LRTP Tranche 21, the RTOs will perform an analysis to ensure ITCS solutions are additive or complimentary to that portfolio.

Governing Documents:

13. Will this be considered a new joint study that does not fall under the existing Coordinated System Plan (CSP) or Targeted Market Efficiency (TMEP) process?

The study is not considered part of the existing CSP or TMEP process, although it will evaluate a holistic set of analyses that overlap with these defined processes. See additional information in response to question 5, above.

14. Does this envisioned study have any parallels with MISO and SPP's JTIQ study, or is it also separate from that?

Like MISO and SPP's JTIQ as a new venture in interregional planning, this study between PJM and MISO is a new venture to enhance interregional planning; however, it does not consider the interconnection queue as a key driver. The primary objective of this study is to incrementally increase transfer capability between the regions.

15. **How will costs be allocated? Will JOA revisions be required?**

    This study will identify various needs, primarily those required to increase interregional transfer capability. Increasing interregional transfer capability is a new driver that the JOA does not cover. Addressing these needs may require amending the JOA following consultations with stakeholders, potentially including new project type(s) and cost-allocation rule(s). The team will seek to consider how multiple benefit drivers may drive the business case for solutions as well as the cost allocation between the two RTOs. Ultimately, the analysis will inform the need for need for potential governing document revisions.

Order 1920

16. **Is this study aligned w/ Order 1920 Interregional Planning Requirements (IPR)?**

    Order 1920 requires transmission providers to coordinate and share information related to long-term planning assumptions, analysis and results. Additionally, it requires transmission providers to consider if interregional solution alternatives are more appropriate than regional solutions. The study is focused on near-term solutions that incrementally increase transfer capability between the regions. Although the focus is near-term solutions, the RTOs are using long-term planning assumptions and analyzing multiple value needs and benefits.

17. **If not, do the RTOs plan to reevaluate the study goals and approach?**

    The RTOs are evaluating Order 1920 requirements and Tariff or JOA implications separately from this study effort. It is expected that this study will inform enhanced Order 1920 JOA transmission planning processes in the future.

Timing and Next Steps

PJM and MISO will provide an update to the IPSAC on November 22, 2024, and share results with stakeholders in the first half of 2025.