Manual No. 034

Business Practices Manual

Economic Reconfiguration

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1. Introduction

This introduction to the Midcontinent Independent System Operator, Inc. (MISO) *Business Practices Manual (BPM) for Economic Reconfiguration* (formerly known as Congestion Cost Reconfiguration) includes basic information about this BPM and the other MISO BPMs. The first section (Section 1.1) of this Introduction provides information about the MISO BPMs. The second section (Section 1.2) is an introduction to this BPM. The third section (Section 1.3) identifies other documents in addition to the BPMs, which can be used by the reader as references when reading this BPM.

1.1 Purpose of the MISO Business Practices Manuals

The BPMs developed by MISO provide background information, guidelines, business rules, and processes established by MISO for the operation and administration of the MISO markets, provisions of transmission reliability services, and compliance with the MISO settlements, billing, and accounting requirements. A complete list of MISO BPMs is available for reference through MISO's website. All definitions in this document are as provided in MISO's Tariff, the NERC Glossary of Terms Used in Reliability Standards, or as defined by this document.

1.2 Purpose of this Business Practices Manual

The purpose of the *Economic Reconfiguration BPM* is to further formalize the process developed to receive, verify, evaluate, and implement reconfigurations of the MISO Transmission System for the purpose of reducing congestion costs. The original process, publicly available on the Reliability Subcommittee page of the MISO Website prior to development of this BPM, was implemented on June 30, 2023, and revised on October 17, 2024. The process was created when MISO and its Transmission Owners/Operators were engaged by Market Participants and a third-party vendor to verify and implement reconfiguration options, with the intent to reduce congestion costs by modifying topology. The MISO Transmission Owners/Operators requested a formal process be created to verify and approve economic reconfiguration requests so they can be assessed in a consistent and reliable manner across the MISO footprint.

The MISO Tariff provides in Section 38.1.1.v, as part of the Transmission Provider's Scope of Services, that the Transmission Provider shall "*Ensure the Transmission Provider's Security Constrained Economic Dispatch and the Security Constrained Unit Commitment processes manage the Transmission System within reliability constraints and make a good faith effort to mitigate congestion within the Transmission Provider Region*." In conjunction with stakeholders, MISO developed this process to ensure that economic reconfiguration requests will be evaluated and implemented in a consistent and reliable manner across the MISO footprint. This process ensures that commitment and dispatch continue to operate within reliability constraints while also providing a methodology for MISO to utilize in fulfilling its mandate to "*make a good faith effort to mitigate congestion within the Transmission Provider Region."*

1.3 References

Other reference information related to this BPM includes:

- MISO Tariff
- MISO Congestion Management, SO-RA-NOP-00-401

2.0 Overview

In general, the overall economic reconfiguration process contains the following sequential steps:

1. Identify Pattern (Historical or Future): Market Participant identifies a congestion pattern of interest or identifies expected upcoming congestion, often due to a planned outage.

2. Optimize Topology: Market Participant identifies reconfiguration solutions, analyzes them, and submits a request to MISO through the MISO Help Center ("Reconfiguration Request").

3. Assess Impact: MISO assesses the reliability and economic impact of the Reconfiguration Request, while MISO Transmission Owners/Operators assess reliability impacts only. Generator Owners/Operators with generation facilities that may be directly impacted by increased operational risk will be asked to evaluate their risk exposure.

4. Evaluate Options: MISO and Transmission Owners/Operators will determine whether the Reconfiguration Request is acceptable or unacceptable and based on those determinations the Reconfiguration Request will either be granted or denied.

5. Implement Reconfiguration: MISO and Transmission Owners/Operators implement the reconfiguration if real-time conditions allow.

6. Exit: If at any time MISO and/or the Transmission Owners/Operators, as appropriate, determine that a reconfiguration fails any of the screening criteria detailed in Section 3 of this BPM, presents a reliability risk, or no longer provides congestion cost savings, the reconfiguration will be exited and the system will revert back to its original configuration.

A Reconfiguration Request cannot be used to avoid building upgrades required in a Generation Interconnection Agreement. Any request submitted for this purpose will not be considered.

Beyond requests submitted by Market Participants, MISO may also independently identify possible reconfiguration solutions at its discretion, also known as Reconfiguration Requests. For such Reconfiguration Requests, MISO will use the processes identified in this BPM.

2.1 Top 10 Congested Constraints

MISO will report the top 10 congested constraints for the prior period at each meeting of the Reliability Subcommittee (RSC).

2.2 MISO Evaluation Process

MISO's evaluation process for economic reconfiguration consists of the following four (4) sequential phases, further detailed in this BPM:

- Phase 1: Initial Screening (Section 3)
- Phase 2: Evaluation (Section 4)
- Phase 3: Implementation (Section 5)
- Phase 4: Exit (Section 6)

2.3 Timing

If a Reconfiguration Request is submitted at least thirty (30) days prior to the requested effective date and/or outage date, MISO will make reasonable efforts to complete the appropriate reviews and evaluations and grant/deny the request with seven (7) days of the requested effective date and/or outage date, as applicable.

If a Reconfiguration Request is submitted within thirty (30) days of the requested effective date and/or outage date, MISO cannot guarantee that the reconfiguration will be evaluated by the requested date as it will depend on the number of days provided and the complexity of the analysis (as determined by MISO).

If the Reconfiguration Request is denied based on the reliability assessment and/or the market evaluation, that Reconfiguration Request will not be reevaluated. Any change in the parameters submitted will require submission of a new Reconfiguration Request.

3.0 Phase 1: Initial Screening

3.1 Reconfiguration Request Submission Requirements

Each Reconfiguration Request must be submitted through the MISO Help Center as a separate request for tracking purposes: https://help.misoenergy.org/

All Reconfiguration Requests must include at a minimum the following:

- Name of company submitting request, including "on behalf of," if applicable
- Target constraint(s) for relief
- Whether the request is addressing a current condition or an anticipated condition due to upcoming outage(s)
- Operational action specification

- Conditions under which the actions are requested for implementation
- Requested duration
- Expected flow relief on target constraint(s) resulting from submitter's reconfiguration analysis
- Generation radialized by the requested actions, if any
- Any potential risks identified
- Load radialized by the requested actions, if any
- CROW ID for outage reconfiguration is in response to (if applicable)
- Additional Relevant Notes

Each Reconfiguration Request must contain only one reconfiguration option. If multiple options could be considered, each option must be submitted as a separate Reconfiguration Request in the MISO Help Center.

3.2 Screening Criteria

The Reconfiguration Request must meet the following criteria before being evaluated:

- It must not result in radial load, unless addressed or approved by all impacted Transmission Owners/Operators and Load Serving Entities.
- It must provide a minimum of 5% of loading relief on the constraint it is meant to relieve.
- It must not negatively impact known stability conditions including, but not limited to, those addressed in operating guides.
- It must not result in delaying or cancelling a planned outage, unless agreed upon by all impacted Transmission Owners/Operators.
- It must not involve units in testing.
- It must not have failed during a previous study with no major changes to system configuration or evaluation criteria.
- It must not require voltage or rotor angle stability analysis.
- It must meet study criteria and lead time requirements for all impacted Transmission Owners/Operators and Load Serving Entities.

3.3 Additional Considerations

- MISO will evaluate as many Reconfiguration Requests as time and resource constraints will allow. This will typically be 3-5 per month. MISO will make every effort to identify and prioritize those requests that will provide the most benefit to the market based on criteria set by MISO including, but not limited to, voltage level, expected flow relief, duration, historical binding, etc.

- If a Reconfiguration Request results in changing the definition of a MISO/SPP or MISO/PJM Market-to-Market Flowgate to include a generation facility within the contingency, MISO must coordinate with and receive any needed approval from the adjacent RTO prior to implementation.

- Once a Reconfiguration Request passes through this initial screening phase, MISO will communicate with all impacted parties so they can begin to study and evaluate the requested reconfiguration.

4.0 Phase 2: Evaluation

Reconfiguration Requests will be analyzed by each of the relevant Transmission Owners/Operators for operational feasibility and any reliability impacts, by Generator Owners/Operators with generation facilities that may be directly impacted by increased operational risk, and by MISO for regional reliability impacts and market impacts.

The list of criteria for requests, set forth above in Section 3 (Screening Criteria), also applies throughout the Evaluation Phase.

4.1 Step 1: Reliability Assessment

Transmission Owners/Operators who need to assess and approve the Reconfiguration Request are those who operate the equipment involved in the proposed operational action and others who could be affected by the actions. The determination of which Transmission Owners/Operators must analyze the request for reliability is made by MISO.

The reliability assessment will consist of steady state analysis (e.g., AC contingency analysis) and all other reliability studies deemed to be necessary by the Transmission Owners/Operators and/or MISO to validate the requested reconfiguration prior to implementation. The effectiveness of all pre-existing operating guides must be maintained in any reconfiguration under consideration.

The assessment criteria may vary depending on the Transmission Owner/Operator to account for Transmission Owner/Operator practices and local system characteristics. In any case, the assessments will be no more or less stringent than the assessments conducted by the same organization when implementing the same actions for reasons other than the request (e.g., reconfiguration for reliability purposes).

Reliability assessment criteria:

- System Security: Evaluated by running AC contingency analysis. Actions must lead to a secure system state under all specified contingencies for the range of conditions studied.

- Risk Identification: Determine if a single ended line trip will adversely impact the objective of the reconfiguration by introducing the potential for N-1 overloads. The Transmission Owner/Operator and Reliability Coordinator can either accept this risk or mitigate it.

If MISO determines that the Reconfiguration Request may directly impact one or more generation facilities by increasing the operational risk, and the Market Participant submitting the request did not include the Generator Owners/Operators for those facilities, MISO will forward the Reconfiguration Request to those Generator Owners/Operators. The Generator Owners/Operators will evaluate the risk that the requested operational actions pose on their facilities and will determine whether such increased risk is acceptable. The Generator Owners/Operators will communicate their assessments and conclusions to MISO. An example of a request posing operational risk to a facility is a reconfiguration that leads to the generation facility being disconnected under a single transmission contingency.

The result of each reliability assessment by each Transmission Owner/Operator shall be either "acceptable" or "unacceptable" reliability risk. Upon an "unacceptable" reliability assessment by any Transmission Owner/Operator or MISO, the Reconfiguration Request is denied and returned to the submitter. In such case, the organization deeming the request as posing an unacceptable reliability risk shall provide details to MISO about the results of the evaluation to justify the decision. MISO will then relay the results and justification to the submitter in alignment with confidentiality standards of non-public Transmission information.

The submitter of a Reconfiguration Request that is deemed "unacceptable" for reliability and is denied may resubmit a new Reconfiguration Request through the MISO Help Center to address the specific reasons for unacceptable reliability risk assessment.

4.2 Step 2: Market Evaluation

If the reliability assessment is determined to be "acceptable" for MISO and all relevant Transmission Owners/Operators, the reconfiguration will be evaluated for potential market impacts.

The Market evaluation may include, but is not limited to:

- Impacts on MISO system-wide production cost.
- Impacts on MISO local congestion cost.

The Market evaluation will consist of studying the system with and without the reconfiguration implemented. A reconfiguration will not be granted if significant adverse market impacts are identified.

The general principles of approving the reconfiguration from a market impact perspective are:

- Market-based simulation shows there is MISO system wide congestion cost savings without significantly shifting congestion from one area within MISO to another.
- While MISO does not have the visibility to specifically manage congestion in other ISO's and RTOs, MISO remains aware of regional changes that may affect economic reconfigurations

Upon an "unacceptable" market impact assessment, the Reconfiguration Request is denied and returned to the submitter with relevant information regarding the decision.

The submitter of a request that is deemed "unacceptable" for market impacts and is denied may submit a new Reconfirmation Request through the MISO Help Center to address the specific reasons for unacceptable market impact assessment.

5.0 Phase 3: Implementation

5.1 Implementation Steps

Once a Reconfiguration Request has been granted, the following implementation steps will occur:

- Reconfiguration will be documented for the real-time Operators (MISO Reliability Coordinators and Transmission Owners/Operators) for operational awareness.
    - This will be accomplished through Operating Guides.
    - At a minimum, the documentation must include conditions that may occur and the corresponding actions available to them including the corresponding reconfiguration(s).
    - MISO Operations Planning will create a CROW ticket with the outage priority of "Discretionary".

- MISO Operations will communicate internally to the following MISO groups for awareness purposes when a reconfiguration has been granted: (1) Operations Planning and (2) Day-Ahead.

- Transmission Owners/Operators should communicate internally as their processes require.

- MISO and the Transmission Owners/Operators will coordinate implementation of the reconfiguration in real-time per the MISO Congestion Management Procedure (SO-RA-NOP-00-401) provided it passes the following studies:
    - MISO Reliability Coordinator will run a real-time study to ensure the reconfiguration will provide relief to the congestion being experienced and does not overall deteriorate the Reliability of the Bulk Electric System (BES).
    - The MISO Reliability Coordinator will request the impacted Transmission Owners/Operators run a study to ensure the reconfiguration does not adversely impact their system or the neighboring Transmission Owners/Operators system.

5.2 Reliability

As system conditions change, reconfigurations implemented as part of this process may be subsequently adjusted or exited by MISO and/or Transmission Owners/Operators as needed to maintain reliable system operation.

Economic Reconfiguration in no way limits the ability of MISO and the Transmission Owners/Operators to take appropriate actions to ensure reliable operations.

6.0 Phase 4: Exit

If at any time MISO and/or the Transmission Owners/Operators, as appropriate, determines that a reconfiguration fails any of the screening criteria detailed in Section 3 of this BPM, presents a reliability risk, or no longer provides congestion cost savings, the reconfiguration will be exited and the system will revert back to the original configuration.

Some examples of system condition changes that may require exiting a reconfiguration include:

- Reliability events
- Transmission outage returning to service
- Generation outages returning online or available
- Forced Transmission line outage
- Generation unit trip
- Regional system condition changes of neighboring ISOs and RTOs (While MISO does not have the visibility to specifically manage congestion in other ISO's and RTOs, MISO remains aware of regional changes that may affect Economic Reconfigurations.)

MISO Reliability Coordinator, along with the corresponding Transmission Owner/Operator, will study reverting back to the original configuration to ensure this does not adversely impact the system. If all parties agree it is reliable to exit, they will coordinate these actions as they currently do for other similar situations, (e.g., outage returning from service or a reliability-only based reconfiguration).

Reconfigurations can be implemented, adjusted, exited, and re-implemented, as system conditions allow and dictate for the duration of the Reconfiguration Request.

7.0 Extranet Posting

MISO will post the following information to the MISO Extranet:

- Anticipated Start and End Dates of the Reconfiguration Request
- Constraint Targeted for relief by the Reconfiguration Request
- Status of the proposed Reconfiguration Request
    - Active/New: Submitted to MISO
    - Active/In Progress: Under study
    - Resolved/Denied: Failed Reliability Assessment or Market Evaluation
    - Resolved/Granted: Passed Reliability Assessment and Market Evaluation

A Market Participant may gain access to the MISO Extranet for Economic Reconfiguration by submitting a new case through the MISO Help Center as follows:

- Navigate to https://help.misoenergy.org/
- Sign in (or create an account) and open a new case
- In your new case:
    - Select “Request Access to Restricted Content” under Category
    - Select “Restricted Content Access Inquiries” for Type
    - Make sure to include “Economic Reconfiguration” in the Description box or it is likely your request will be denied.
- Click “Submit”
- A signed CEII NDA will be required
- After access has been granted, all economic reconfigurations currently under study can be found at https://www.misoenergy.org/extranet/