Operations and Scheduling

Problem Statement

Both MISO and PJM Independent Market Monitors have stated in their respective State-of-the-Market reports that real time interchange between PJM and MISO could be accomplished more efficiently and the Participants have not been fully effective in arbitraging the price differences in real time. Other analysis suggested that Participant scheduling in reaction to price differential leads to significant volatility of the energy transfers (Net Interchange) across the seam and creates operational challenges and market impacts.

- Market Participants have requested alignment of Interchange Scheduling rules that will provide more flexibility in scheduling transactions across the seam. In particular, they have sought to align the two RTOs' interchange scheduling requirements and rules associated with the following areas
    - Schedule Submission Notification time: In MISO, Fixed transactions can be submitted 30 minutes prior to the start of the schedule. In PJM, schedules less than 24 hours in duration can be submitted 20 minutes prior to the start of the schedule.
    - Allowable ramp limits: MISO has a 1000 MW ramp for Imports and a 500 MW ramp for Exports. PJM has a 1000 MW ramp for both Imports and Exports.
    - Intra-hour scheduling: MISO and PJM resolved operational challenges that resulted from having transactions scheduled in the last 15 minutes of the hour using different approaches. MISO implemented a rule that transactions could not be scheduled in the current operating hour. PJM implemented a 45-minute minimum schedule duration
    - Interface definitions: MISO defines its PJM interface pricing point using all PJM Generator locations that are represented in the network model with equal weighting. PJM defined its MISO interface pricing point using a selected set of generator locations based on historical congestion patterns.
- Optimizing interchange will increase economic efficiency of real-time energy interchange across the interface, improve manageability of operational issues associated reliability coordination, and facilitate more flexibility in scheduling transactions,

Issue Source

MISO-PJM Joint and Common Stakeholders Group. The MISO, PJM and following stakeholders provided input to this problem statement. Stakeholders whose written comments influenced this problem statement include: DP&L, Dynegy, EMMT, MidAmerican, TVA, Vitol and We-Energies.

Key Work Activities

1. Perform education for all stakeholders on the current scheduling business rules in each RTO.
2. Review current practices of both RTOs and evaluate opportunities for process improvement, and additional stakeholder transparency.

3. Identify required business manual, tariff and agreement changes required to implement the identified enhancements in both RTOs

Expected Deliverables

MISO and PJM have identified following specific deliverables related to this problem statement.

- Develop a document that provides the following (time frame: up to 6 months):
    - Explains and contrasts each RTO's scheduling practices, interface definition and pricing methodology and published forward-looking information
    - Analysis performed so far including analysis by the market monitors and MISO-PJM joint cost-benefit analysis
- Evaluate opportunities and requirements for alignment or enhancement of rules (time frame: up to 6 months)
    - Additional real-time and forecast level data that can be published
    - Reduction of MISO's notification time
    - Increase of MISO's export ramp limits from 500MW/15min to 1000MW/15min
    - Identification of common alternative solution so MISO can relax the intra-hour scheduling prohibition and PJM can relax the 45 min duration requirement
    - Efficiency of interface proxy bus definition for accuracy of dispatch and price signals
- Recommend and implement enhancements that require short lead time with respect to required analysis and procedure/software changes (time frame: up to 6 months)
- Re-evaluate efficiency and volatility of interchange after the short-term enhancements are implemented (time frame: up to 12 months)
    - Identify frequency and cost impact of inefficient transactions
    - Perform cost-benefit analysis to determine overall scope of savings and efficiency gain
- If substantial inefficiency persists, develop and implement interchange optimization solutions (time frame: up to 12 months)
    - Dispatchable Interregional Transactions (DIT)
    - Others

- Evaluate efficiency of interchange optimization solution, if implemented, and develop and implement further enhancements if necessary (time frame: up to 18 months)
- Develop and implement 5-minute settlement (time frame: up to 18 months)
- Remove intra-hour scheduling restrictions that are intended to avoid market manipulation opportunities under hourly settlement construct (time frame: up to 18 months)

It is expected that business process, manual, operating agreement and tariff revisions will be generated as appropriate for each RTO as well as revisions to the Joint Operating Agreement. It is understood that these documents will necessarily require endorsement through each RTO's stakeholder processes.

Expected Overall Duration of Work

PJM and MISO staffs expect that these activities could be completed in a timeframe of 12 to 18 months.