Interregional Transmission Services and Operations: Beyond Order 1000

Stu Bresler
Senior Vice President – Markets

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Harvard Electricity Policy Group
PJM as Part of the Eastern Interconnection

Key Statistics

- Member companies: 960+
- Millions of people served: 61
- Peak load in megawatts: 165,492
- MW of generating capacity: 171,648
- Miles of transmission lines: 81,736
- 2014 GWh of annual energy: 792,580
- Generation sources: 1,304
- Square miles of territory: 243,417
- States served: 13 + DC

- 27% of generation in Eastern Interconnection
- 28% of load in Eastern Interconnection
- 20% of transmission assets in Eastern Interconnection

As of 5/2016
Major Elements of Inter-Regional Coordination

• Coordinated operation for transmission constraints
• Efficient energy transfers between regions
• Inter-regional transmission planning coordination
SERC Reliability Risk Team (RRT)

- SERC Reliability Risk Team has identified loop flows as a major Reliability Risk for the SERC region.
- SERC Operating Committee mandated a study for two specific TLR 5 issuances in January and February 2016.
- PJM submitted “system snapshots” for the requested dates in PSS/e format.
- PJM will participate in the coordinated analysis performed by the SERC Near Term Study Group (NTSG).
• PJM has worked with TVA and Duke Energy (Progress and Carolina).

• Operating procedures have been developed and provided to System Operators to help mitigate congestion experienced during real-time operations.

• PJM Operations has shared these “areas of congestion” and associated operations guides with the PJM Planning group to help support Inter-regional planning coordination.
PJM requires pseudo-ties for external resources committed as Capacity Performance resources.

• PJM and MISO have been working on near-term operating procedures for existing pseudo-ties.

• PJM and MISO are also discussing long-term solutions to resolve challenges for new and future pseudo-ties.
PJM is…

- Working with our southern neighbors who are not participants in the Congestion Management Process (CMP).
- Dedicated to creating transparency with respect to Market Flows created by PJM Dispatch and external capacity resources.
- Introducing third party flowgates as provided in the CMP to help create this transparency.

This will allow for PJM to account for market flows in its Day-Ahead Market solution and mitigate flowgate congestion experience in non-market areas.
Efficient Energy Transfers: Interface Pricing

• Interface Pricing Efforts

• MISO and PJM have agreed on a compromise solution

• Implementation coincident with the beginning of the 2017 Planning Year to coincide with annual ARR/FTR processes
The objective of Coordinated Transaction Scheduling (CTS) is to improve interchange scheduling efficiency

- Increase alignment of energy scheduling with interface prices
- Adds the option for Market Participants to schedule energy transactions across the NYISO/PJM interface using an interface bid
Efficient Energy Transfers: MISO – PJM CTS

- FERC issued an order on April 18, 2016 approving the implementation of Coordinated Transaction Scheduling across the MISO-PJM interface (Effective date of March 1, 2017)
- MISO and PJM development efforts remain underway
Cross Border Planning & Interconnection Queue

• Cross Border Transmission Planning
• Interregional Planning Stakeholder Advisory Committee 2016 priorities and timelines under review
  – Prioritizing the approval process for targeted studies
  – Replacing the interregional 1.25 benefit/cost ratio with a less stringent screen
  – Enhance the cost/benefit market efficiency project assumptions and metric calculations

• Generation Interconnection Queue Coordination
  – PJM reviewing MISO generation interconnection queue changes with MISO to determine the impacts to the current queue coordination process
  – PJM and MISO formalizing queue and retirement study processes
• MISO – Mitigate congestion constraint in Southern Indiana
• PJM – Eliminate the operating guide and special protection scheme at Rockport generating station.
• Focus on congestion issues along common interface
• Identify targeted and cost effective solutions to congestion that can be implemented in the near-term
• Better understanding of factors that cause congestion and planned system enhancements that can address it
PJM, NY ISO and ISO-NE Coordination

• Coordination of queued interconnection requests exhibiting potential cross-border impacts
• Joint review of significant gas generation expansion near PJM/NY ISO border
• PSE&G/ConEd wheel change impacts
• Latest Northeast Coordinated System Plan Report finalized May 9, 2016
• Proposed HVDC merchant project near Erie West under joint review
Joint study to evaluate potential impacts from loop flows caused by MISO generation resources that cleared PJM 2016/2017 Reliability Pricing Model Base Residual Auction for delivery to PJM.

- Agreed to enhanced coordination and planning data exchange
- Established enhanced operating practices to mitigate impacts
- SERC to study parallel flow issues in 2016
Southeastern Regional Transmission Planning

New southeast planning arrangement per FERC Order No. 1000 compliance

- Exchange of planning data
- Joint review of regional plans
- Determine interregional transmission that may be more effective than regional plans

Operational / Planning issues

- Tie line loadings (TVA, CPL, OVEC)
- Parallel flow issues (LGE/KU)
- End-of-life facilities (Dominion)