PJM Interface Pricing Analysis
Interface Pricing Methods

Section 2.6A of Attachment K of the OATT

- **Tie-Line Weighting (ex. NYISO)**
  - Uses external pnodes on the sending end of tie-lines
  - Weights price based on tie-line flows

- **Marginal Cost Proxy (ex. CPLEIMP/EXP)**
  - Has lower Tier methods such as High/Low
  - Determines the marginal unit(s) in the external area
  - Averages LMPs at marginal pnodes in external area
  - May also result in High/Low under some conditions

- **Other methods (ex. Geographic, External Congestion Analysis)**
  - Interface prices use external generator pnodes **ONLY**
External Congestion Analysis

- PJM’s MISO Interface was defined using the External Congestion Analysis method
- Perform historic analysis on external area congestion and select impactful pnodes to define the interface
  - PJM does not envision the definition and/or weighting changing every 5-minutes but this flexibility would be analogous to other approved interface pricing methods.
- Accurately represents M2M congestion
MISO Interface Definition Analysis

- Calculated total number of congested hours on relevant flowgates for prior year
  - Considered major transmission upgrades that could impact future congestion
  - Identified external generator pnodes on sending end of top 15-20 congested facilities
  - Performed “what-if” analysis on the MISO Interface under various configurations to determine pricing impacts
MISO Interface Graphic
MISO Interface Performance Analysis

• Interface Price performance analysis looked to see if PJM’s MISO Interface price and MISO’s PJM Interface price were providing the correct price incentives
  • 155 NELSON-940 CORDOVA 15503 B  345 KV
  • Beaver Channel-Albany 161 KV
  • LAPORTE-MICHIGA2 NIP TIE B  138 KV
  • Oak Grove-Galesburg 161kV
  • Stillwell 345/138 KV
  • Prairie State-W Mt Vernon 345 kV
• Focused on the congestion component of the LMP to see if congestion was captured in the resulting Interface price
Interface Analysis Observations

• For all flowgates analyzed, PJM’s MISO Interface price was more reactive to the change in shadow price than MISO’s PJM Interface price
  • For 3 of the flowgates MISO’s PJM Interface price did not reflect the congestion
    • 155 NELSON-940 CORDOVA 15503 B  345 KV
    • LAPORTE-MICHIGA2 NIP TIE B  138 KV
    • Oak Grove-Galesburg 161kV
  • For 1 of the flowgates, the congestion component of the LMP for MISO’s PJM Interface price was in the opposite direction 45% of the time
    • Beaver Channel-Albany 161 KV
155 NELSON-940 CORDOVA 15503 B  345 KV
LAPORTE-MICHIGA2 NIP TIE B  138 KV
Oak Grove-Galesburg 161kV
Stillwell 345/138 KV
Prairie State-W Mt Vernon 345 kV