Overview

- MISO has been evaluating efficiency of interface definition and pricing and exploring alignment opportunity with PJM
- An alternative definition was developed based on study of top congested flowgates and historical generation dispatch
- Historical prices under new definition illustrated improved representation of congestion at or near the seam
- MISO is seeking stakeholder review and feedback regarding the proposal and discussing alignment with PJM
- MISO is also exploring timeframe for implementing the enhanced definition after any additional validations are completed
Objectives of Interface Definition and Price

• Efficient interface price is expected to incent economic interchange transactions and reflect true incremental cost impacts on owned generation as a result of interchange with the neighbor in a good majority of scenarios and system conditions
  ➢ Incorporates marginal system cost and congestion at or near the seams
  ➢ Achieved through realistic power flow representation in market processes

• MISO’s current interface definition methodology does capture marginal generation cost and may have opportunity for improved representation of congestion on top Market-to-Market flowgates
Marginal Congestion Component of the Interface LMP does not always correspond to changes in Shadow Price during selected hours when the flowgate was binding

- PJMC MCC: Congestion component of the current interface price for PJM as calculated by MISO
- MISO MCC: Congestion component of the current interface price for MISO as calculated by PJM
- MISO SP: MISO calculated shadow price
• Under the current construct, Interface Price = System Marginal Price + estimated congestion value of constraints at or near the seams
  - Congestion value may be negative

• In a simple example where two regions are connected through a flowgate
  - Each region selects pricing nodes on the opposite side of the flowgate to account for its incremental generation dispatch cost or savings and the congestion on the flowgate
  - Prices are expect to diverge when the flowgate is congested
The relatively complex seam between the MISO and PJM systems necessitates careful evaluation of reliability impact and economic impacts:

- Manageability of the constraint
- Estimation of congestion value

In this example, PJM generators on either side of the constraint are dispatched to enable interchange transaction while managing flow on the congested flowgate.
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In this example, PJM generators on either side of the constraint are dispatched to enable an interchange transaction while managing flow on the congested flowgate.
Alternative Interface Definition

• Derived based on M2M flowgate congestion analysis
• Identified top 40 congested flowgates in 2012 based on number of binding hours
  ➢ Includes both MISO and PJM managed flowgates
• Selected a unique set of 9 generator nodes in PJM
  ➢ Considered nature of impact (help or hurt) of MISO-PJM transfers relative to direction of congestion
  ➢ Included generators appeared to be supporting MISO-PJM interchange transactions
• Equal weighting
The proposed MISO PJM interface definition includes the following pricing nodes, all equally weighted:

- U AEP 21WWVSTA 21W2
- U AEP BUCHANA4 BU9
- U AEP COOK CK1
- U AEP SANDERSO SAN3
- U DEOK BECKJORD UN3
- U DEOK MIAMIFOR MI6
- U CE TWINRGOV OTRAILWF
- U CE POWERTO1 PO-6
- U CE KINCAID 20UKN-1

Study indicated improved correlation between the Marginal Congestion Component of the revised Interface price and shadow prices of a few top congested flowgates.
Revised PJM Interface: Geographical View
- PJMC E9 MCC: Congestion component of the new interface price for PJM as calculated by MISO
- PJMC MCC: Congestion component of the current interface price for PJM as calculated by MISO
- MISO MCC: Congestion component of the current interface price for MISO as calculated by PJM
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Next Steps

• Discuss findings and alignment opportunities with PJM
• Obtain stakeholder feedback
• Develop recommendation

Contact

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