MISO Assessment of Interface Pricing Issues raised by MISO IMM and WPPI Energy

MISO-PJM Joint and Common Market

January 24, 2014
Overview

• MISO IMM pointed to the issue of overstatement of external congestion value in Interface prices
• WPPI commented that the existing MISO and PJM’s interface prices are not the economically correct prices
• MISO has evaluated potential solutions to resolve the issues
  – MISO IMM proposed long term solution (remove external congestion from Interface price definition)
  – PJM proposed solution (market flow credit)
  – WPPI proposed solution (common interface definition between MISO and PJM)
Overview

• **MISO believes that**
  – MISO IMM proposed long term solution will resolve the issue of overcharging external congestion value
  – WPPI proposed solution has merits to improve economic efficiency and might also solve the issues raised by the MISO IMM

• **Further investigation is needed to**
  – Fully evaluate impact of WPPI proposal including practical considerations
  – Compare the IMM proposed long term solution and WPPI’s proposal
MISO IMM proposed solution

• **Summary of proposed solution**
  – Remove external congestion from interface prices for the transactions scheduled involving MISO and PJM
  – For transactions scheduled with only one RTO, include the external congestion part but add market flow credit to address revenue adequacy issue

• **MISO conducted analysis to evaluate MISO IMM proposed long term solution and concluded that it appears to be the optimal solution**
  – It can solve both the revenue adequacy issue and transaction double payment issue in the real time market
  – No gaming opportunities are found when different transaction paths are selected
WPPI proposal

• WPPI commented that the existing MISO and PJM interface prices are not the economically correct prices since they:
  – Do not tend to reflect actual interchange marginal cost
  – Do not tend to converge at joint optimal dispatch
• WPPI suggested that both MISO and PJM should use the same nodes and weights for the interface definition to
  – Yield prices that lead to the equilibrium point of joint optimal dispatch
  – Provide economically efficient interchange price signals
• WPPI also suggested that this could potentially solve the double counting issue
MISO’s assessment of WPPI proposal

• MISO evaluated WPPI proposal by performing analysis and concluded that
  – The proposed method could improve pricing signals and transaction efficiency
  – It could solve the issue of overstatement of external congestion value in interface prices since each RTO would cover a portion of

• Further evaluation is required to:
  – Confirm if congestion payment is the right amount for the MISO-PJM transaction
  – Assess impact of partial congestion payment due to internal (non-M2M) constraints
Current Method

- For a MISO to PJM transaction, each RTO captures full congestion value on a jointly managed constraint

\[
\text{MISO calculated congestion value} = \text{MISO calculated shadow price} \times \text{Constraint Shift Factor between MISO load center and MISO’s Interface definition for PJM}
\]

\[
\text{PJM calculated congestion value} = \text{PJM calculated shadow price} \times \text{Constraint Shift factor between PJM’s Interface definition for MISO and PJM load enter}
\]
Common Interface Definition

- MISO will pay/charge transactions for congestion value from MISO load center to the interface while PJM will cover from the interface to PJM load center.

MISO calculated congestion value = MISO calculated shadow price * Constraint Shift Factor between MISO load center and Common Interface

PJM calculated congestion value = PJM calculated shadow price * Constraint Shift factor between Common Interface and PJM load center
## Comparison of potential solutions

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<thead>
<tr>
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<th>Option 1 IMM Proposed Long Term Solution</th>
<th>Option 2 WPPI Proposed Solution</th>
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<tbody>
<tr>
<td><strong>Interface Price Change</strong></td>
<td>Non-monitoring RTO excludes external congestion value for transactions with both RTOs, but no change for transactions with only one RTO</td>
<td>Each RTO will include external congestion value up to / from the new common interface definition</td>
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<tr>
<td><strong>Transaction Settlement</strong></td>
<td>Existing process; will use new interface price</td>
<td>Existing process; will use new interface price</td>
</tr>
<tr>
<td><strong>Market Flow Credit</strong></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Address Double Counting Issue</strong></td>
<td>Yes</td>
<td>Yes, for M2M constraints; Yes, for internal constraints, transactions may get partial congestion payment/charge</td>
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<tr>
<td><strong>Address Revenue Adequacy Issue</strong></td>
<td>Yes</td>
<td>Further Evaluation required</td>
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<td><strong>Unintended Consequences</strong></td>
<td>Dispatch results may change in DA if the same method applied to DA</td>
<td>Further Evaluation required</td>
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Current status of RTO and IMM discussions

• RTOs and the respective IMMs met in December 2013 and reached agreement that the issue of overstatement on external congestion value in interface prices exists

• MISO and PJM are evaluating the WPPI proposed method and investigating options for selection of nodes if that method is adopted
Next Steps

- Perform further analysis to fully evaluate WPPI proposal
- Investigate implementation details of the solutions proposed by the MISO IMM and WPPI
- Continue to collaborate with PJM to reach an agreement on a solution to resolve the issue
Questions?

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