Sham Scheduling

MMUAC
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Monitoring Analytics
Sham Scheduling

- Transactions can be scheduled to an interface based on a contract transmission path.
- Pricing points are developed and applied based on the electrical impact of the external power source on PJM tie lines, regardless of contract transmission path.
- PJM establishes prices for transactions with external balancing authorities by assigning interface pricing points to individual balancing authorities based on the Generation Control Area (source) and Load Control Area (sink) as...
Sham Scheduling

Least Cost Transmission Path: AECI-MISO-PJM

Scheduled Flows are at the MISO Interface

Actual Flows are at the SouthIMP Interface

Import pricing point from AECI:SouthIMP
Sham Scheduling

• The current approach will correctly identify the interface pricing point only if the market participant provides the complete path in the eTag.

• This approach will not correctly identify the interface pricing point if the market participant breaks the transaction into portions, each with a separate eTag (Sham Scheduling). The result of such behavior can be incorrect pricing of transactions, pricing of transactions not consistent with the power flow.
NYIS-ONT with ONT-PJM

Transaction 1: NYIS-ONT
Transaction 2: ONT-MISO-PJM
Actual Flow: NYIS-PJM
NYIS-ONT with ONT-PJM

Transaction 1:
NYIS: Pay $8 for export to ONT
ONT: Receive $30 for import from NYIS
TOTAL: - $8 + $30 = $22

Transaction 2:
ONT: Pay $9 for export to MISO
MISO: Receive $21 for import from ONT
MISO: Pay $22 for export to PJM
PJM: receive $25 for import from ONT
TOTAL: - $9 + $21 - $22 + $25 = $15

TOTAL for Both Transactions:
$22 + $15 = $37
NYIS-ONT with ONT-PJM

The resulting interchange is an import to PJM from NYIS. Without Sham Scheduling, the settlement would be:

NYIS: Pay $10 for export to PJM
PJM: Receive $26 for import from NYIS
TOTAL: - $10 + $26 = $16

- Scheduled flows do not match actual flows.
- Same effects on loop flows as those paths banned by the NYISO in 2008.
- Only additional transmission charges in ONT
  - Already pay for the NYIS transmission to ONT
  - No MISO charge: RTOR
  - No PJM charge: SPOT IN
ONT-MISO-PJM with PJM-MISO

Transaction 1: ONT-MISO-PJM
Transaction 2: PJM-MISO
Actual Flow: ONT-MISO
ONT-MISO-PJM with PJM-MISO

Transaction 1:
ONT: Pay $15 for export to MISO
MISO: Receive $20 for import from ONT
MISO: Pay $25 for export to PJM
PJM: Receive $30 for import from ONT
TOTAL: -$15 + $20 - $25 + $30 = $10

Transaction 2:
PJM: Pay $15 for export to MISO
MISO: Receive $25 for import from PJM
TOTAL: -$15 + $25 = $10
ONT-MISO-PJM with PJM-MISO

The resulting interchange is an import to MISO from ONT. Without Sham Scheduling, the settlement would be:

ONT: Pay $15 for export to MISO
MISO: Receive $20 for import from ONT
TOTAL: -$15 + $20 = $5

• Scheduled flows do not match actual flows
• No change in generation in PJM, yet settlements occur
  • Similar to Southeast / Southwest interface issue, where market participants took advantage of price differences at interfaces
• No additional transmission charges
  • Already pay for the ONT-MISO transmission
  • No MISO charge either way: SPOT IN or RTOR
## Price Difference Range

<table>
<thead>
<tr>
<th>Price Difference Range</th>
<th>Number of Hours</th>
<th>One Market Participant, 50 MW Transaction in each hour</th>
<th>One Market Participant, 100 MW Transaction in each hour</th>
<th>Five Market Participants, 50 MW Transaction in each hour</th>
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<tbody>
<tr>
<td>$0 - $10</td>
<td>6,582</td>
<td>$1,202,985.50</td>
<td>$2,405,971.00</td>
<td>$6,014,927.50</td>
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<td>$10 - $20</td>
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<td>&gt; $250</td>
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<td><strong>Total</strong></td>
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<td><strong>$5,534,390.00</strong></td>
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