

INTERFACE BUS PRICING METHODOLOGY

Interface Pricing

- **Interface Pricing is effectively “at the border”**
- **Interface Pricing excludes losses related to other Transmission Provider facilities**
- **Interface Pricing is consistent with all other internal pricing**
 - **Provides comparable settlement of inter-BA transactions with the load and resources of the BA**
 - **Results in inter-BA transactions consistent with reliability needs**

Interface Pricing Concern

- **There is a concern that an overlap in LMP pricing for interfaces applied to bilateral transactions may exist**
 - **This concern exists regardless of Market-to-Market coordination**
- **SPP currently believes the issue resides with the shift factors (including losses on other parties transmission facilities)**
- **SPP suggests a possible solution would be to calculate the interface prices closer to the RTO borders**

Potential Impact of Other Proposals

- Potomac Economics has suggested removing the congestion component on interface pricing
- Removing the congestion component from the Non-monitoring RTO interface price results in a discontinuity in the prices charged to interchange transactions vs. the internal energy
 - This may also result in perverse pricing vs. the desired flow direction

Conclusion

- **SPP pricing is different than MISO in that it explicitly excludes losses on non-SPP facilities**
- **SPP is continuing to investigate improvements in interface pricing**
- **Removing the congestion component from the non-monitoring RTO interface pricing will result in equity consequences for the load within the RTO**
- **The concern is noted by all parties, but there is not consensus on the solution**
- **The benefits of Market-to-Market should not be delayed, nor a rush to solution that results in significant inequities to the LSEs**

APPENDIX

General Approach

- **Interface prices are calculated consistent with internal prices**
 - **Nodal prices are calculated using the electrical locational relation to the generation (shift factors)**
 - Includes the impact of marginal losses
 - **Aggregate prices are load weighted averages of the nodal prices**
 - **Interface prices are Aggregate prices with the following exceptions**
 - The nodal prices are generally external to SPP
 - Losses related to the other Transmission Provider(s) facilities are excluded

Specific Components

- **Shift factors are generally calculated in relationship to a “reference bus” that is the load weighted “congestionless” and “lossless” cloud in the RTO for computer programming efficiency**
 - **The combination of the generators to the reference bus and flowgate to the reference bus is used to calculate the shadow price (redispatch cost at the flowgate)**
 - **The flowgate to the reference bus and each node to the reference bus is used to calculate the congestion component of each bus**
 - **Effectively calculating the LMP at each node based on the shift factor of each node to each generator**

Shadow Prices

- A “shadow price” represents the redispatch cost at the flowgate to honor the flowgate limit
- Load, Generation, and Interface price congestion component is reflective of the shadow price

Settlement

- **Currently – all energy, including inter-BA transactions, are settled using the LMP**
- **Market-to-Market will add compensation on an “imbalance basis”**
 - **Payment is made for congestion relief above the respective RTO’s FFE**