

The PJM Whitepaper “Virtual Transactions in the PJM Energy Markets”, states that,

*“Overall, virtual trading benefits the efficient operation of the PJM energy markets. It can assist in attaining efficient market outcomes and improve commitment and price convergence between the Day-Ahead and Real-Time Markets. The participation of financial traders alongside physical asset owners and load-serving entities provides enhanced competition and liquidity to support hedging. Virtual trading generally assists in achieving efficient market outcomes, i.e. Day-Ahead Market outcomes that commit those generation resources that will in fact be needed to serve load in real time.”*

Further,

*“The market rules that govern the set of viable bids and offers that can be submitted into the Day-Ahead Market can increase both the complexity and time required to clear the market. Thus market rules should be investigated as a potential area to improve Day-Ahead Market clearing times.”*

Currently, PJM’s proposed solution for improving the solve time of the Day-Ahead Market is to limit the number of biddable nodes and volume for virtual transactions,

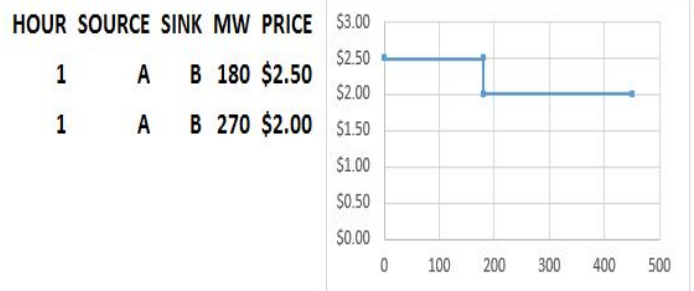
*“To minimize the added complexity resulting from general transaction volume PJM has implemented a soft cap of 3,000 UTC transactions per market participant... This cap only indirectly limits unique transaction volume. However, the unique transaction volume issue can be addressed directly by reducing the number of available trading locations.”*

XO Energy believes that the efficiency of the PJM Market should not be compromised due to technological inefficiencies by artificially limiting the number of locations and volume allowed by participants. This seems counterproductive to operating a well functioning market, and could have negative impacts on proper price formation.

Other options should be explored to help reduce the number of unique bids that would have less dramatic consequences on the Market. XO Energy is interested to have PJM analyze whether restricting the incremental price on bid segments would further reduce the Sparse Matrix. For example, if a participant is only allowed to bid in \$.50 segments, this would reduce the number of unique bids in the market:



**5 Segments: 5 Unique Bids**



**2 Segments: 2 Unique Bids**

While this restricts market participants from being more price sensitive, this may help reduce the number of unique bids in the market, and thus improve the solution time while still allowing the appropriate amount of biddable locations. XO Energy would like PJM to run analyses for a set of days, by grouping virtual transaction bids into a smaller set of tranches, and examine whether it improves the solution time.