

Demand Curve for Small Quantity of RRS

To prevent hockey stick bids from being struck in the ERCOT market, a proxy unit will be created in the Security Constrained Economic Dispatch engine with a zero shift factor (no positive or negative effect) on the transmission elements in the system. This unit will be sized at one hundred megawatts with a linear energy offer curve from the price disclosure level (currently \$300/MWh) at 0MW to \$1000/MWh at 100MW.

The proxy unit will be struck, in merit, should the overall market prices rise above lowest price of the proxy unit's energy offer curve (currently \$300/MWh). When the proxy unit is struck, the capacity related to this unit will be deployed, pro rata, to all generation units providing Responsive Reserve Service that are not controlled by underfrequency relays.

RRS Unit instruction =

Proxy unit MWs * RRS Unit's RRS allocation/Total RRS MWs provided by gen.

Small Demand Curve for 50-100 MW of RRS

The proposal to modify the bid stack to prevent hockey stick bidding is much easier to describe than it is to implement, so rather than confuse everyone with implementation language, I'll give you an explanation of what it intends to do and then list some of the issues that have to be resolved to make it work. By the way I can't claim the idea as my own. This came from TXU's comments to the PUC on the Pricing Safeguards rule. Shams also had a plan similar to this he discussed at our Mitigation meetings.

Proposed Alternative Mitigation Method to Hockey Stick Bidding

To prevent hockey stick bids from being struck in the ERCOT market, fifty megawatts of Responsive Reserve Service capacity will be inserted with a linear energy offer curve from \$300/MWh to \$1000/MWh. Should the overall market prices rise above \$300/MWh, a portion of the RRS capacity will be struck to maintain price stability up to the full 50MW at which time the price of the market is at \$1000/MWh and true market scarcity is realized.

Issues/Concerns that need to be resolved:

How many nodes have to be above \$300/MW before RRS kicks in? 100%, 1 node, some other number?

How does the system insert the RRS bids into the unit specific bid stacks? (50/2300 at every unit offering RRS?)

Is this method needed with potential changes in optimization? (does the optimization put the hockey stick bids into reserves)

Q: When we deploy this "stabilized price" RRS, who do we send the signal to? I.e. who is responsible for supplying this price stabilized product? Is it the bidder with the "hockey stick" bid?

A: It would be a pro rata share of generation RRS suppliers. This is where the plan gets a little messy. Determining nodal prices and deployments wouldn't be simple.