Regulation Market Pricing – M-11 Proposed Revision

Additional sentence added to 2.3.7: Regulation Market Clearing

signal tuning parameters, changes in the set of resources providing regulation service, and changes to the regulation requirement.

PJM determines the benefits factor based on the expected impact that fast-following resources have on the NERC reliability criteria. Determination of expected response will be based a combination of off-line models, analysis of the regulation signals, and the historical operational data as it accumulates. Historical operational data will be given increasing weight to the benefits factor determination over time. Changes to the benefits factor function will be made periodically after review at the Operating Committee.

The net impact of the use of the benefits factor is to increase the likelihood of dynamic resources being selected in the clearing process, up to the point of diminishing returns. Beyond the point of diminishing returns (1 to 0), the benefits factor will decrease the likelihood of fast-following resources getting clearing. RegD resources with a benefits factor less than .1 will not be considered in the regulation clearing.

During identified hours where more sustaining regulation (RegA) and less fast-following regulation (RegD) is warranted, RegD resources with a benefits factor less than 1 will not be considered in the regulation clearing because of its reduced benefits. A cap will be implemented at BF = 1 during these hours. Capped hours will be reviewed on a quarterly basis at the Operating Committee.

The benefits factor is calculated in ASO one hour ahead in real time for each qualified RegD resource participating in the Regulation Market. Also, the benefits factor is re-calculated for each RegD resource that is committed and providing regulation service in real-time for every 5 minute interval of the hour. The recalculation accounts for changes in the resource's adjusted total offer cost due to potential change in LMP at its bus which may affect its lost opportunity cost value. The benefits factor of RegA resources is always 1.

The benefits factor calculation steps include:

Step 1: Calculation of the Performance Adjusted MW

$$Performance\ Adjusted\ MW = Capability\ (MW) * Historical\ Performance\ Score$$

Step 2: Calculation of the Initial Adjusted Total Offer Cost