

Energy Price Formation Senior Task Force Charter

Mission

The Markets and Reliability Committee (MRC) approved the creation of the Energy Price Formation Senior Task Force to evaluate proposals to enhance energy market and reserve market pricing.

Group Objectives

The EPFSTF stakeholder group will conduct the following key work activities and produce the stated deliverables as described in the Issue Charge:

1. Provide education on topics including, but not limited to:
 - a. How energy and reserve prices are currently determined in PJM.
 - b. Factors that impact price formation such as resource eligibility, offer levels, operating parameters, interchange, self-scheduling, congestion, losses, and others that are identified.
 - c. Alternative energy pricing frameworks that have been applied and/or discussed in other regions, including comparison of the high-level strategic pros and cons of these constructs relative to PJM's proposed convex hull integer relaxation concept.-
 - d. How the current and alternative pricing frameworks influence bid/offer behavior, including a periodic assessment of market participants' ability to make informed decision about future market conditions relative to the implementation timeline.-
 - e. The current PJM shortage pricing mechanism and Operating Reserve Demand Curves (ORDC).
 - f. How hedging is used by participants to mitigate risk, the impact of uplift on hedging, and how changes to pricing rules impact forward and financial markets and existing bi-lateral contracts. This effort should include a periodic assessment of whether stakeholders have adequate access to effective models and/or other tools to evaluate hedges and forward contracts.
2. Identify additional design criteria to guide the selection of energy market and shortage pricing design alternatives that should be considered in addition to the price formation goal of maximizing the social welfare objective (maximizing market surplus for consumers and suppliers).
3. Given the identified design criteria, evaluate gaps and opportunities to enhance PJM's current energy market and shortage pricing designs.
4. Given the identified gaps and opportunities, develop alternatives for enhancing PJM's energy



market and shortage pricing designs (which enhancements may include new products).

5. Provide an initial assessment of other changes to PJM market rules that while out of scope for this effort, may be relevant for further discussion in other forums if recommended market design alternatives will be implemented.
6. Develop market rules as necessary to implement any recommended enhancements.
7. Develop a transition mechanism for the Energy & Ancillary Service offset for time periods for which capacity auctions have already cleared prior to any proposals being implemented and other applicable transition mechanisms as determined necessary by the group.
8. Where feasible, analyses evaluating the potential impact of proposals.

Expected Deliverables

As necessary, deliverables include the following:

1. A recommendation to the MRC on proposed market rule changes to enhance PJM's energy and reserve price formation and/or shortage pricing mechanism. This includes, but is not limited to revisions to rules on offers, offer limits and mitigation which are necessitated by the proposal, as needed.
2. Revisions to the Operating Agreement, Open Access Transmission Tariff, and manuals to implement the recommended enhancements.

Expected Overall Duration of Work

The activities of the group are expected to be completed by the end of the 3rd quarter 2018. This timeline will be reviewed and extended as necessary.

Decision-Making Method

This group will be using Tier 2 decision making method as described in the PJM Stakeholder Process Manual (M-34).

Administrative

1. The group will report to the Markets and Reliability Committee.
2. The group will be facilitated by:

David Anders, Facilitator

Vijay Shah, Secretary
3. All PJM Stakeholders may appoint representatives to the task force.

4. The group will conduct its activities in accordance with the protocols found in the PJM Stakeholder Process Manual (M-34).
5. The group will accomplish the scope of work identified above and only the work above. Approval from the parent Standing Committee will be sought before engaging in any activity outside this scope. The following items are out-of-scope beyond an initial assessment of whether changes may be warranted if the recommended energy market and/or shortage pricing design enhancements will be implemented.
 - i. The methodology used to determine the Energy and Ancillary Services offset used in the capacity market (excluding a transition mechanism and the potential inclusion of revenues from new products identified pursuant to Key Work Activity #4).
 - ii. The methodology used to determine the Installed Reserve Margin.
 - iii. The Regulation Market design, except for education and analysis on the impact of proposed changes to regulation pricing.
 - iv. Discussion regarding changes to the determination of Fuel Cost and Variable Operating and Maintenance.
 - v. Changes to capacity market design.
6. The group will periodically report progress on its chartered scope of work to the Markets & Reliability Committee.
7. Membership in the group is open and will be identified by volunteerism. Group members are not required to sign a confidentiality agreement or non-disclosure agreement.
8. Meeting minutes (notes) and all meeting materials will be published on the PJM web site.