

## **PJM-PROPOSED ENERGY PRICE FORMATION SENIOR TASK FORCE (EPFSTF) GOALS**

### **Short-Term Goals (Q3 2018):**

#### 1) Synchronize Reserve Market

PJM's objective for this item is to consolidate Tier 1 and Tier 2 reserves into a single product that is treated equally. The consolidation would ensure that all resources assigned reserves have an obligation to perform and are compensated at the applicable clearing price. Currently, Tier 1 reserves are not obligated to respond and are not paid the clearing price. Due to the inconsistency of Tier 1 response to reserve events, PJM believes that it can improve its ability to determine the reserve capability on the system by ensuring all resources assigned reserves are obligated to perform and utilizing energy market offer data to determine a resource's reserve capability, where possible. Today, a resource's reserve capability is determined by a combination of reserve offer data and energy market offer data. PJM would like to rely solely on energy market offer data to the extent possible to ensure reserve calculations are as accurate as possible.

#### 2) Dynamic Reserve Sub-Zone Modeling

PJM's objective for this item is to ensure that the modeled reserve sub-zone approximates actual system conditions as closely as possible. Currently, PJM models a single sub-zone based on a static resource definition. The import limit into the sub-zone can change based on the most-limiting west-to-east transfer interface. This model is consistent with historic transmission flows across the PJM system but does not accurately represent operational issues today. PJM would like to investigate pre-defining several reserve sub-zones that can be changed dynamically to more accurately reflect system conditions and reserve needs.

#### 3) Simplified Operating Reserve Demand Curve (ORDC) enhancements

This goal of enhancing the Operating Reserve Demand Curve (ORDC) is to recognize the price suppressing impact that operators' actions may have on reserve prices under certain system conditions and to capture the reliability value of reserves in excess of the current requirement. PJM has been investigating ORDCs based on a Loss of Load Probability (LOLP) function and would like to investigate demand curve changes utilizing this concept. In the short-term, PJM anticipates that the shape of the ORDC will be discussed but recognizes the likely need for longer discussion on the magnitude.

Additionally, PJM would also like to discuss dynamic changes to the ORDCs used in operation when system operators take discrete actions to schedule additional reserves. Absent a change to reserve requirements, these actions to maintain reliability can have a price suppressive effect.

#### 4) Fast-Start Pricing

FERC Docket EL18-34-000 addresses the issue of Fast-Start Pricing and is currently open at the FERC. Any stakeholder discussion needed or desired in response to a final order in this proceeding will be done at the EPFSTF.

**Mid-Term Goals (Q1 2019):**

## 1) 30 Minute Reserve Market

PJM would like to pursue discussion on the development of a real-time 30-minute operating reserve market. The Operating Committee has already initiated discussion on this and the developments of market rules for this product were delegated to the EPFSTF.

## 2) Complete ORDC Modeling

The complete ORDC modeling builds on the simplified ORDC concept by incorporating the Loss of Load Probability (LOLP) and Value of Lost Load (VOLL) concepts to determine the reliability value of reserves. Discussion and developments in this area are intended to address the shape, magnitude, and any other open issues regarding the ORDC curves.

**Long-Term Goals (TBD):**

## 1) Broader ELMP implementation

PJM believes that further enhancements can be made to the LMP calculation beyond those addressed in the Fast-Start pricing proceeding. Details of this concept were explained in the PJM Proposed Enhancements to Energy price Formation paper published on November 15, 2017. PJM would like to continue discussion in this area with stakeholders.

## 2) Day-ahead Reserve Modeling and Shortage Pricing

PJM believes that the consistent modeling of reserves between the Day-ahead and Real-time Energy Markets as well as consistent shortage pricing designs will minimize unnecessary discrepancies between these markets that create false arbitrage opportunities that decrease market efficiency. PJM would like to discuss aligning the day-ahead and real-time reserve market and shortage pricing designs.