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Proposed market design changes in ERCOT

ERCOT operates an energy-only wholesale electricity market for most of the state of Texas. This market design pays generators only for the energy they provide to the grid, with very few exceptions. This is the only energy-only wholesale electric market in the United States, as other competitive markets typically pay generators for having capacity available in their systems.

While the ERCOT market continues to operate reliably and efficiently, ERCOT and its stakeholders routinely study ways to improve the market and ensure pricing mechanisms are in place to represent the increased value of electricity when supplies are limited.

In recent years, ERCOT has seen an increase in out-of-market actions [i.e., Reliability Unit Commitments (RUC) and Reliability Must-Run (RMR) agreements] to address local reliability issues, such as high congestion in Houston. The Public Utility Commission of Texas (PUC), ERCOT and its stakeholders are reviewing proposals to determine whether some market changes could reduce these actions without threatening system reliability.

Market design recommendations

Some stakeholders who have expressed concerns about ERCOT's current market design believe these reliability tools are preventing price signals that will result in an appropriate response by the market itself. NRG Energy and Calpine Corp. hired Dr. William W. Hogan of Harvard University and Dr. Susan L. Pope of FTI Consulting to publish a paper that addresses their views of current market conditions in ERCOT and offers ways to improve the existing market design.

The paper includes several recommendations that these consultants believe would help improve price formation and market response under certain conditions.

- System-wide price formation enhancements, including costs associated with marginal line losses and modifications to the current Operating Reserve Demand Curve (ORDC)
- Locational scarcity pricing, including local reserve requirements through Real-Time Co-optimization
- Changes to transmission planning policies and alternatives for transmission cost recovery

The ERCOT Independent Market Monitor also released market enhancement recommendations during the June 2017 Board of Directors meeting. Those recommendations include:

- Implementation of Real-Time Co-optimization
- Locational reserve requirements
- Inclusion of marginal line losses in ERCOT locational marginal prices
- Modifications to energy pricing from RMR units

ERCOT's response

ERCOT already has taken steps to minimize the need for RUC and RMR activity, while not risking reliability, and will continue to study the current market design and ways to improve it. At the request of the PUC, ERCOT is currently assessing the cost and time to implement Real-Time Co-optimization and marginal line losses.

On July 14, 2017, ERCOT filed two reports with the PUC related to these topics. The first report provides updates on the timeline and costs associated with the implementation of Real-Time Co-optimization (Project 41837). The second report addresses recent changes to the ERCOT market (Project 47199) related to RUC and RMR activity. It also discusses adding a local reserve product in conjunction with Real-Time Co-optimization and incorporating marginal losses into dispatch and pricing.

Next steps

The PUC will determine whether cost benefit studies or other information is needed in its studies on Real-Time Co-optimization and marginal losses. ERCOT plans to update the PUC on both items in October.

Key dates

June 2014
ERCOT publishes paper on Real-Time Market improvements (i.e. Real-Time Co-optimization and a Multi-Interval Real-Time Market).

March 2017
ERCOT and stakeholders determine anticipated costs of Multi-Interval Real-Time Market would exceed estimated benefits.

April 2017
PUC directs ERCOT to restart evaluation of Real-Time Co-optimization and provide status reports.

May 2017
NRG Energy/Calpine engage Dr. William W. Hogan and Dr. Susan L. Pope to draft paper addressing current views of market conditions in ERCOT.

July 2017
- ERCOT files status report with PUC on Real-Time Co-optimization. (Project 41837)
- ERCOT files report with PUC on price formation tools and recent changes to the ERCOT market. (Project 47199)

August 2017
PUC hosts workshop to discuss market design in ERCOT.

October 2017
ERCOT will provide updates to PUC on Real-Time Co-optimization and marginal losses.

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