

ERCOT releases benefits analysis of Real-Time Co-optimization

At the direction of the Public Utility Commission of Texas (PUC), ERCOT has completed its assessments of the costs and benefits associated with the implementation of Real-Time Co-optimization (RTC) of energy and ancillary services. In June 2018, the Independent Market Monitor (IMM) for the ERCOT wholesale electricity market released a [report](#) that includes its evaluation of the impacts of RTC on the ERCOT market. ERCOT also released a [study](#) showing some additional impacts of RTC to supplement the IMM report.

What is Real-Time Co-optimization?

RTC is the process of dispatching energy and ancillary services interchangeably in the Real-Time Market. Under the current market design, ancillary services are procured in the Day-Ahead Market, and ERCOT does not typically move ancillary services between resources in the Real-Time Market.

With RTC, ERCOT's Security-Constrained Economic Dispatch (SCED) system would automatically select the most efficient and effective resources available to serve load and meet ancillary service needs. If the SCED system were to dispatch resources that were procured for ancillary services capacity, the system would reassign other generation units to meet ERCOT's ancillary services requirements. This change would not impact ERCOT's process of securing ancillary services in the Day-Ahead Market.

Key findings from ERCOT analysis on Real-Time Co-optimization

ERCOT's study focused on potential operational improvements and benefits to the market outside of the Real-Time Market. The analysis shows significant operational benefits from the implementation of RTC, including:

- More timely procurement of ancillary services when additional amounts are required or when resources are unable to provide those services
- More effective congestion management resulting from the ability to use a wider variety of resources to solve transmission constraints
- Reduction in manual actions by operators, including the deployment of ancillary services and the swapping of ancillary services obligations between resources
- Improved management of ancillary services through consideration of the minute-to-minute changes in resource-specific capabilities, including a framework for better utilizing all types of resources

The analysis also determined that RTC would benefit the market by reducing the need for Reliability Unit Commitment activity.

RTC also would generally eliminate the need for Supplemental Ancillary Service Markets (SASMs), which is the current mechanism that gives ERCOT the ability to procure additional ancillary services and/or to switch ancillary service providers after the Day-Ahead Market has been cleared. However, SASMs are a less effective way to procure ancillary services and create risk for market participants and uncertainty for ERCOT.

Cost and time estimates

Estimates show it would cost ERCOT a minimum of \$40 million and take four to five years to implement RTC in the ERCOT market. The cost estimate does not include market participant costs associated with the proposed change.

IMM software

The ERCOT IMM has developed software that allows individual market participants to assess the benefits of the potential implementation of RTC in the ERCOT market. The software includes a series of data files from 2017 that can be used to run a simulation showing how RTC would have impacted Real-Time Market outcomes in 2017. This software is available on the [ERCOT website](#).

Next steps

The PUC will review these findings and is expected to report back on next steps.