



Control Number: 48540



Item Number: 16

Addendum StartPage: 0

RECEIVED

REVIEW OF REAL-TIME
CO-OPTIMIZATION IN THE ERCOT
MARKET

§
§
§

PUBLIC UTILITY COMMISSION

2018 OCT 8 11 20 AM

OF TEXAS
FILING CLERK

**LOWER COLORADO RIVER AUTHORITY’S RESPONSE TO THE
COMMISSION’S REQUEST FOR COMMENTS**

The Lower Colorado River Authority (LCRA) submits the following response to the request for comments issued by the Public Utility Commission of Texas (Commission).

I. INTRODUCTION

LCRA appreciates the opportunity to respond to Staff’s questions regarding the potential implementation of real-time co-optimization (RTC) in the Electric Reliability Council of Texas (ERCOT) market. Staff’s questions identify a number of important issues, which generally relate to three broad categories: (1) the impact of implementing RTC on grid reliability and resource adequacy in ERCOT, (2) the costs and benefits associated with implementing RTC, and (3) other potential market impacts, including the likely effects of implementing RTC in conjunction with marginal transmission losses. In order to be responsive to Staff’s questions without being unduly repetitive, LCRA presents its comments as they relate to these larger topics.

II. RELIABILITY AND RESOURCE ADEQUACY

Response to Questions 1, 2, 7, 8, 9 and 16

Among the questions posed in this project are whether implementing RTC will impact reliability and incent new generation investment in ERCOT. Notwithstanding the reliability-related benefits discussed in the studies performed by ERCOT and the Independent Market Monitor (IMM),¹ neither study identified a critical reliability need that would justify the Commission and market participants prioritizing a project of this scope and cost. RTC is a

¹ ERCOT, *Study of the Operational Improvement and Other Benefits Associated with the Implementation of Real-Time Co-optimization of Energy and Ancillary Services* at 2, 8-9 (June 29, 2018) (“ERCOT Study”); Potomac Economics, *Simulation of Real-Time Co-Optimization of Energy and Ancillary Services for Operating Year 2017* at 4, 6 (June 29, 2018) (“IMM Study”); *see also Review of Summer 2018 ERCOT Market Performance*, Project No. 48551, Comments of Potomac Economics at 2 (Sept. 14, 2018).

market efficiency enhancement—not a means of addressing the growing issue of resource adequacy in ERCOT.

At present, the Commission is appropriately focused on the outlook for resource adequacy for next summer and beyond, and has been engaging stakeholders on the issue of whether refinements to the current wholesale market are appropriate and necessary.² Shifting stakeholder attention and resources away from the more immediate issue of ensuring resource adequacy to instead evaluate the complex and costly processes associated with the theoretical implementation of a market efficiency proposal would be imprudent. Further, given the modifications to the current scarcity pricing mechanism that are under discussion today,³ the Commission must decide whether—and, if so, how—to change the existing framework before the potential impacts of RTC can be meaningfully evaluated.

Even if the Commission were to make no enhancements to the current scarcity pricing mechanism (following its ongoing examination in Project No. 48551 or otherwise), questions about RTC and its potential impact on resource adequacy remain. RTC, if implemented, will change how the current scarcity pricing mechanism operates, but many key design and decision issues are not yet resolved, and therefore the impacts cannot be reliably assessed. For example, rather than having one Operating Reserve Demand Curve (ORDC) for real-time, RTC would require implementing an ORDC for each and every Ancillary Service (A/S). Yet the ORDC parameters for each A/S have not been identified. RTC will also require a change of the current energy offer cap (assuming the Commission wants to maintain \$9,000 as the highest possible price for marginal energy), thus impacting the power balance pricing curve. All of these decisions may change real-time scarcity pricing substantially, which in turn would impact the determination of the reserve equilibrium point.⁴ Unless and until these process and design elements associated with implementing RTC are further defined, the impact to the reserve margin—and thus the impact to near-term and long-term resource adequacy in ERCOT—is uncertain.

² *Review of Summery 2018 ERCOT Market Performance*, Project No. 48551, Request for Comments (Sept. 4, 2018).

³ *See generally* Project No. 48551, comments in response to Question No. 1 filed by Exelon, Calpine Corporation, Texas Competitive Power Advocates, Vistra Energy, LCRA, and others.

⁴ The 11.5% equilibrium reserve margin identified in the Brattle Group’s study was based on current ORDC standards.

III. COSTS AND BENEFITS

Response to Questions 1, 2, 4, 5, 6, 9

While LCRA does not dispute that increased efficiency represents a benefit to the market, the cost/benefit analyses of RTC that have been performed by ERCOT and the IMM appear to rely on a number of questionable assumptions. Even taken at face value, these studies raise serious doubts about whether implementing RTC would be cost-justified. Moreover, any determination of whether the benefits justify the expected costs is premature until questions about the design and implementation of RTC can be answered and the additional costs that market participants would incur to implement RTC can be quantified.

The IMM's backcast study of operating year 2017 attempts to identify reductions in costs that would have been observed had RTC been in place. Notably, this backcast did not account for any transmission system upgrades or additions, nor did it account for the deliverability of A/S due to transmission constraints,⁵ or other potential resource limitations that would affect the ability of a given resource to participate in a given hour. The study also assumed that all resources would offer A/S in at \$0.⁶ Unless resources are actually required to offer A/S for \$0 if RTC is implemented, it stands to reason that any change in this fundamental study parameter would produce a different output of projected cost savings.

Questionable assumptions aside, the IMM backcast study estimates that the production cost savings associated with RTC would have been \$11.6 million for 2017.⁷ It then goes on to attempt to quantify other cost "reductions," including sizable estimated reductions in energy, congestion, and A/S costs. This novel approach of attempting to estimate additional benefits, above and beyond the estimated production cost savings, suggests a new standard for evaluating whether a proposal is economic that, to LCRA's knowledge, has not been vetted or endorsed by stakeholders. Instead, the appropriate method to evaluate the net benefits of the proposal would consider only the estimated \$11.6 million in production cost savings against the estimated \$40 million in implementation costs (i.e., assume one "owner" of all generation and load in ERCOT,

⁵ See ERCOT Protocol 6.4.9.1.2, relating to procedures for replacement of infeasible Ancillary Services due to transmission constraints.

⁶ IMM Study at 2.

⁷ *Id.* at 1, 3. Even with the many caveats around the estimated production cost savings of \$11.6 million, this figure still seems to lack empirical support and warrants further scrutiny.

thereby removing the shifting “costs” from the analysis, to which that one owner would be indifferent). The other purported “cost savings” do not represent net cost savings that amount to a societal benefit, but rather a shifting of costs among market participants, creating winners and losers as described further in Section IV below.

LCRA also has questions about some of the anticipated operational benefits associated with RTC. Some of the operational benefits of RTC are already being realized, insofar as Qualified Scheduling Entities (QSEs), including LCRA, are optimizing energy and A/S within their portfolios today. These QSEs are also uniquely capable of accounting for resource limitations or other operational characteristics that may affect whether and how a resource is offered that ERCOT does not have visibility into. And regardless of whether a market participant has a multi-resource portfolio and the ability to optimize within that portfolio, entities can currently enter hour-ahead trades for A/S and energy, without RTC, as the existing ERCOT Protocols allow for A/S trades between counterparties by hour, just as with energy trades.

Even if it can properly be characterized as an operational benefit to centralize this optimization function within ERCOT, that benefit does not come without costs. As noted above, the current portfolio optimization that market participants have been incentivized to perform under the regulatory framework that has existed for many years would be replaced by a centralized command and control function. This is problematic if, as the study assumes, all resources are subject to ERCOT’s optimization control (i.e., no resource can opt out). As a result, QSEs would lose their existing right to optimize within their own resource portfolios. In addition, RTC could potentially jeopardize QSEs’ ability to control and predict how much energy is available for production or hedging. LCRA is deeply concerned that if careful consideration is not given to the design of the ORDC, the additional costs to be incorporated into the A/S offer (i.e., offers above \$0), energy offer caps, and other key design criteria, a QSE’s ability to hedge its financial obligations may be negatively impacted. RTC must be designed in a manner that ensures a QSE will be indifferent as between supplying energy or A/S in real time.

RTC also poses potential inequities as between market participants (like LCRA) that have made the investment to perform portfolio optimization and those that have not. Thus, an entity like LCRA would presumably still have to pay its share of RTC implementation costs, on top of losing the right to control how it chooses to optimize between energy and A/S, as well as forgoing the benefit of its investment in portfolio optimization tools.

ERCOT identified the elimination of Supplemental Ancillary Service Markets (SASMs) as another potential operational benefit of implementing RTC.⁸ ERCOT notes its concern with SASMs is that they are often less liquid than the Day-Ahead Market (DAM), resulting in clearing prices that are significantly higher than DAM and not reflective of either DAM or Real-Time Market (RTM) conditions.⁹ However, ERCOT did not identify how it would address future hour shortages if SASMs are eliminated. Presumably, this would have to be addressed through the Reliability Unit Commitment (RUC) mechanism—which could introduce unintended negative consequences. In any event, it is not necessary to implement RTC in order for SASMs to be improved. This past April, LCRA introduced NPRR872, which would modify the Shadow Price cap to a level that is more consistent with system conditions, rather than automatically setting the price of being short at \$9,000 when there are insufficient offers in SASM.

Finally, there are many design parameters that have yet to be determined. Until certain key market design components are identified and ultimately agreed upon through the stakeholder process, the full range of costs and benefits associated with implementing RTC cannot be adequately assessed.

IV. ADDITIONAL MARKET IMPACTS

Response to Questions 3, 10, 11, 12

Most of the remaining questions ask about potential impacts to retail customers and the retail market, impacts to the A/S market, and impacts to the Congestion Revenue Rights (CRR) market. Undoubtedly, implementation of RTC will affect all of these markets—primarily by shifting costs between market participants. Although the IMM backcast study purports to identify substantial cost reductions—for example, a reduction of \$257 million in system congestion costs—these estimates do not actually represent a *net* decrease in costs: the analysis does not account for the revenue side (the benefit allocated to load). These figures do not provide empirical support for implementing RTC and should not be misconstrued as savings that will be realized by the market.

⁸ ERCOT Study at 7-8.

⁹ *Id.*

V. IMPLEMENTATION OF RTC AND MARGINAL LOSSES

Response to Questions 13, 14, and 15

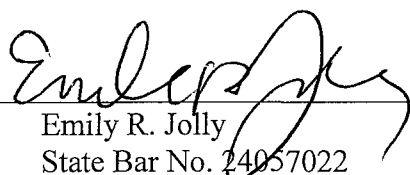
Concurrent with this project, the Commission is also considering a proposal to include marginal losses in Security Constrained Economic Dispatch (SCED). The balance of the questions concern the potential cumulative impacts of implementing RTC in conjunction with marginal losses. Implementation of either proposal will require significant market participant resources to analyze potential impacts and adjust their systems and commercial positions. Piecemeal implementation of RTC and marginal losses will only increase disruption to the market. Accordingly, in the event the Commission decides that both RTC and marginal losses have merit, it should implement marginal loss pricing at the same time as RTC. Implementing both proposals in tandem would help ensure that the Commission's and market participants' time and resources are used more efficiently and that the disruption caused by implementing changes of the magnitude posed by these proposals is reduced as much as possible.

VI. CONCLUSION

LCRA appreciates the Commission's consideration of these comments and looks forward to participating in further discussions regarding these proposals.

Respectfully submitted,

Emily R. Jolly
Associate General Counsel and
Director, ERCOT Advocacy
Lower Colorado River Authority
P. O. Box 220
Austin, Texas 78767-0220
Telephone: (512) 578-4011
Facsimile: (512) 473-4010
Email: emily.jolly@lcra.org

By: 
Emily R. Jolly
State Bar No. 24057022