



## Filing Receipt

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**PROJECT NO. 52933**

<b>CY 2022 REPORTS OF THE</b>	<b>§</b>	<b>PUBLIC UTILITY COMMISSION</b>
<b>ELECTRIC RELIABILITY COUNCIL</b>	<b>§</b>	
<b>OF TEXAS</b>	<b>§</b>	<b>OF TEXAS</b>

**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.’S**  
**NOTICE OF PROTOCOL AND OPERATING GUIDE VIOLATIONS**

Electric Reliability Council of Texas, Inc. (ERCOT) hereby notifies the Public Utility Commission of Texas (Commission) of the following ERCOT Protocol and Operating Guide violations that were discovered in 2022:

**A. Error with the Three-Part Supply Offers used in the Reliability Unit Commitment (RUC) Optimization**

ERCOT violated Sections 5.1(4) and 5.5.2(8) of the ERCOT Protocols. Section 5.1(4) governs calculation of Three-Part Supply Offers submitted before the Day-Ahead Market (DAM) by Qualified Scheduling Entities (QSEs). Section 5.5.2(8) governs calculation of Three-Part Supply Offers for all Resources that did not submit a Three-Part Supply Offer, but are specified as available but Off-Line (excluding Resources with a Resource Status of Emergency Must Run in a QSE’s Current Operating Plan).

ERCOT identified an error in the Reliability Unit Commitment (RUC) process that caused the RUC optimization mechanism to consider incorrect startup and minimum energy costs for some Resources. The error was made in connection with the implementation of Nodal Protocol Revision Request 617, Energy Offer Flexibility, which was implemented in 2016. The issue impacted RUC optimization, but not RUC settlement. In addition, the issue did not directly impact the DAM or Real-Time Market pricing outcomes, or any associated Settlement. Accordingly, ERCOT did not correct prices or perform Market Resettlement. The issue was corrected in ERCOT’s production systems on March 31, 2022, and a Market Notice detailing the issue was sent to all Market Participants on April 4, 2022. A copy of the Market Notice is attached hereto as “Exhibit A.”

## **B. Calculation of net power consumption values used in Ancillary Service Imbalance Payments and Charges**

ERCOT violated Section 6.7.5(7) of ERCOT Protocols, which articulates the calculation of Real-Time Controllable Load Resource net power consumption (RTCLRNPC) and Real-Time non-Controllable Load Resource net power consumption (RTNCLRNPC) impacting Real-Time Ancillary Service Imbalance Payments and Charges. ERCOT discovered that instead of using the average of the four-second telemetered net power consumption values over each 15-minute interval, ERCOT's systems utilized the last telemetered net power consumption value in each 15-minute interval. The error is limited to RTCLRNPC and RTNCLRNPC values and did not impact other billing determinants used in the calculation of Real-Time Ancillary Service Imbalance Payments and Charges. ERCOT determined that the error dates go back to the implementation of NPRR568 in June 2014. Subsequent to the discovery, ERCOT developed a solution to the issue, which it implemented on May 26, 2022. Given data availability limitations for much of the affected period, ERCOT determined it is not possible to precisely determine the impact of the error on Market Participants. ERCOT issued a Market Notice detailing the issue on May 25, 2022. A copy of the Market Notice is attached hereto as "Exhibit B."

## **C. Emergency Response Service settlement report published one day late**

ERCOT violated Section 9.14.5(1) of ERCOT Protocols by posting an Emergency Response Service settlement one day late. Protocol Section 9.14.5(1) provides: "ERCOT shall post the settlement for each Emergency Response Service (ERS) type and Time Period in an ERS Contract Period 20 days after the final Settlement of the last Operating Day of the ERS Standard Contract Term is posted, as described in paragraph (1) of Section 9.5.5, RTM Final Statement." Under Section 9.14.5(1), ERCOT had a deadline to post a settlement on June 14, 2022, but did not post until the next day, June 15, 2022. Upon discovery, ERCOT ERS staff evaluated the error and modified an internal procedure directing that ERCOT ERS staff not wait for a Market Notice to be published before posting settlements in order to further reduce the possibility of a late posting from happening in the future.

**D. Failure to comply with Dispatch Instructions as described by the Nodal Operating Guide**

ERCOT violated Section 3.1.3 of the ERCOT Nodal Operating Guide. Nodal Operating Guide Section 3.1.3(c) provides that when ERCOT initiates a Hotline Verbal Dispatch Instruction (VDI), ERCOT shall confirm that the VDI was received by at least one Market Participant on the Hotline call.

On July 13, 2022, ERCOT deployed Emergency Response (ERS) consistent with the ERCOT Protocols. However, after the electronic recall was sent out to Market Participants, ERCOT initiated use of a Hotline to provide the VDI, but upon the completion of the VDI, did not confirm that the VDI was received by at least one Market Participant on the Hotline call. To help prevent reoccurrence, ERCOT's written procedures have been updated and clarified. In addition, this event will be included in the next training cycle for ERCOT Operators, which will be completed by the first week of September 2022.

ERCOT takes its responsibilities under the ERCOT Protocols and Nodal Operating Guides seriously, and ERCOT appreciates the Commission's understanding in overseeing ERCOT's administration of and compliance with these requirements. ERCOT is prepared to discuss these matters in further detail at the Commission's request.

Respectfully submitted,

/s/ Katherine Gross

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ATTORNEYS FOR ELECTRIC  
RELIABILITY COUNCIL OF TEXAS, INC.

# EXHIBIT A

To: Notice\_Operations@lists.ercot.com,NOTICE\_GENERAL@LISTS.ERCOT.COM

Sent: 4/4/22 3:06 PM

**Subject:** M-A040422-01 Issue with the Three-Part Supply Offers used in the Reliability Unit Commitment (RUC) Optimization

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**NOTICE DATE:** April 4, 2022

**NOTICE TYPE:** M-A040422-01 Operations

**SHORT DESCRIPTION:** Issue with the Three-Part Supply Offers used in the Reliability Unit Commitment (RUC) Optimization

**INTENDED AUDIENCE:** All Market Participants

**DAYS AFFECTED:** June 22, 2016, through March 30, 2022

**LONG DESCRIPTION:** ERCOT staff has identified an error in the RUC process. The issue stems from a parameter setting that caused the RUC optimization to consider incorrect startup and minimum energy costs for some Resources. It has been determined that the setting error was most likely introduced with the implementation of Nodal Protocol Revision Request (NPRR) 617, Energy Offer Flexibility, implemented in 2016. For the RUC process, this error incrementally reduced the amount of Resource commitment recommended by the optimization in some cases. It has been confirmed that this issue impacted only the RUC optimization and did not feed into RUC settlement. Consequently, this also would not have directly impacted Day-Ahead Market (DAM) or Real-Time Market (RTM) pricing outcomes or any associated Settlement.

The identified issue impacted the calculation of certain Resources' startup and minimum energy costs in the process of DRUC/HRUC in the following two ways:

1. According to Protocol Section 5.5.2 (8), "ERCOT shall create Three-Part Supply Offers for all Resources that did not submit a Three-Part Supply Offer, but are specified as available but Off-Line, excluding Resources with a Resource Status of EMR, in a QSE's COP." Specifically, for any Off-Line but available Resource without a Three-Part Supply Offer, excluding any Resource with a cold start time of one hour or less, ERCOT is required to use 150% of any approved verifiable Startup Cost and verifiable minimum energy cost in the RUC process. However, due to the incorrect parameter setting, the ERCOT Market Management System (MMS) has been applying the 150% twice, using 225% of approved verifiable Startup Cost and verifiable minimum energy cost in the RUC optimization.

System functionality before correction

*If Three-Part Supply Offer not available, create the startup and minimum energy costs using:*

*225% of verifiable costs, if verifiable costs available; or*

*150% of generic costs, if verifiable costs not available*

Correct system functionality

*If Three-Part Supply Offer not available, create the startup and minimum energy costs using:*

*150% of verifiable costs, if verifiable costs available; or*

*150% of generic costs, if verifiable costs not available*

2. According to Protocol Section 5.1(4), "The DRUC uses Three-Part Supply Offers, capped at the maximum of generic or verifiable minimum energy and Startup Costs, submitted before the DAM by Qualified Scheduling Entities (QSEs) that were considered in the DAM but not awarded in the DAM". However, due to the same incorrect parameter setting, the ERCOT MMS has been using 150% of verifiable costs in this capping process for Resources with approved verifiable costs.

System functionality before correction

*If Three-Part Supply Offer available, cap the minimum energy and startup costs to:*

*Min (Offer, Max(150% of verifiable costs, 100% of generic costs))*

Correct system functionality

*If Three-Part Supply Offer available, cap the minimum energy and startup costs to:*

*Min (Offer, Max(100% of verifiable costs, 100% of generic costs))*

**ADDITIONAL INFORMATION:** This error was corrected in production systems on Operating Day March 31, 2022. Given that this issue did not affect RUC settlement or DAM and RTM pricing more generally, ERCOT will not be correcting any prices or performing any Market resettlement.

**CONTACT:** If you have any questions, please contact your ERCOT Account Manager. You may also call the general ERCOT Client Services phone number at (512) 248-3900 or contact ERCOT Client Services via email at [ClientServices@ercot.com](mailto:ClientServices@ercot.com).

If you are receiving email from a public ERCOT distribution list that you no longer wish to receive, please follow this link in order to unsubscribe from this list: <http://lists.ercot.com>.

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## EXHIBIT B

**To:** Notice\_Settlements@lists.ercot.com, Notice\_Operations@lists.ercot.com

**Sent:** 5/25/22 8:25 AM

**Subject:** M-A052522-01 Error Identified in Calculation of Net Power Consumption Values Used in Ancillary Service Imbalance Payments and Charges

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**NOTICE DATE:** May 25, 2022

**NOTICE TYPE:** M-A052522-01 Settlements

**SHORT DESCRIPTION:** Error Identified in Calculation of Net Power Consumption Values Used in Ancillary Service Imbalance Payments and Charges

**INTENDED AUDIENCE:** All Market Participants

**DAYS AFFECTED:** June 1, 2014 to Present

**LONG DESCRIPTION:** ERCOT has identified an error in the calculation of Real-Time Controllable Load Resource (CLR) net power consumption (RTCLRNPC) and Real-Time non-Controllable Load Resource (NCLR) net power consumption (RTNCLRNPC) impacting Real-Time Ancillary Service Imbalance Payments and Charges. Instead of using the average of the four-second telemetered net power consumption values over each 15-minute interval, as required by the definitions of RTCLRNPC and RTNCLRNPC in paragraph (7) of Section 6.7.5, Real-Time Ancillary Service Imbalance Payment or Charge, ERCOT's systems have been using the last telemetered net power consumption value in each 15-minute interval. This error is limited to CLR and NCLR net power consumption values and does not impact other billing determinants used in the calculation of Real-Time Ancillary Service Imbalance Payments and Charges. ERCOT has determined that the error dates back to the implementation of NPRR568, Real-Time Reserve Price Adder Based on Operating Reserve Demand Curve, on June 1, 2014. ERCOT has developed a solution to this error and will implement the solution as part of the 2022-R3 release on May 26, 2022.

Given limitations in the availability of data for much of the affected period, ERCOT has determined that it is not possible to precisely determine the impact of the error on Market Participants. ERCOT's expectation is that the error would have positively impacted QSEs receiving payments in some intervals and negatively impacted them in other intervals, and that the net impact on each QSE could be positive or negative. ERCOT similarly expects that the net impact on each QSE representing Load Serving Entities (LSEs) could be positive or negative. ERCOT is undertaking an analysis to identify impacts during several sampled periods affected by price adders to develop a better understanding of the potential scale of impacts. ERCOT will share this analysis with stakeholders as soon as it is available.

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