

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

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Subject: M-A082522-01 Software Error Identified in ERCOT's Market Management System (MMS) impacting Load Zone Prices in the Real-Time Market (RTM) and Day-Ahead Market (DAM)

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**NOTICE DATE:** August 25, 2022

**NOTICE TYPE:** M-A082522-01 Operations

**SHORT DESCRIPTION:** Software Error Identified in ERCOT's Market Management System (MMS) impacting Load Zone Prices in the Real-Time Market (RTM) and Day-Ahead Market (DAM)

**INTENDED AUDIENCE:** All Market Participants

**DAYS AFFECTED:** April 1, 2022, to August 26, 2022

**LONG DESCRIPTION:** ERCOT has identified software errors in the ERCOT MMS that have been impacting both the RTM and DAM. As discussed more fully below, ERCOT has, or is in the process of, implementing fixes to these errors.

ERCOT Protocols Sections 6.6.1.2 and 6.6.1.4 require that for the RTM, the calculation of Load Zone prices include the loads associated with Distribution Energy Storage Resources (DESRs) and use adjusted load values after accounting for the DESR injections and withdrawals. Contrary to ERCOT Protocols Sections 6.6.1.2 and 6.6.1.4, the ERCOT MMS had been excluding the loads associated with DESRs in the calculation of Real-Time Load Zone prices as a result of a software error identified by ERCOT. In the RTM, this error impacted the calculations of Real Time Load Zone Locational Marginal Prices (LMPs) and Real-Time Settlement Point Price (RTSPP) for certain Load Zones, where DESRs are located.

The DAM was also impacted. In addition, due to the same software error, loads associated with DESRs were incorrectly excluded from being mapped to a Load Zone. As a result, the Load Distribution Factors for the loads associated with DESRs were excluded in the calculation of Day-Ahead Shift factors for the Load Zones, which likely impacted the DAM awards and prices.

Lastly, during the investigation of the software error identified above, ERCOT found another error in upstream software, which calculates the adjusted load values to account for the DESR injections and withdrawals. Due to this error, DESR withdrawals had not been included in the adjustment, which led to incorrect DESR adjusted load values feeding into downstream MMS applications. This error also potentially impacted the Load Distribution Factors, as the adjusted load values were part of inputs to create Load Distribution Factors. Due to the fact that this data does not include DESR withdrawals, ERCOT does not have accurate input information and is unable to determine accurate prices for the RTM and DAM for the period during which this calculation was incorrect.

ERCOT has determined that both errors were related to the implementation of NPRR1016, Clarify Requirements for Distribution Generation Resources (DGRs) and Distribution Energy Storage Resources (DESRs), which was released to production on February 10, 2022. The potential price impacts started on April 1, 2022, when DESRs first appeared in the ERCOT Network Model. At this time, there are 11 loads associated with DESRs in the ERCOT system. For the first error, where the loads are being entirely excluded from Load Zones, ERCOT staff implemented a fix in production systems on August 24, 2022. This took effect for the RTM on Operating Day August 24, 2022, and for the DAM on August 25, 2022, for Operating Day August 26, 2022. For the second error in the upstream calculation of the adjusted load values, a fix was implemented on August 11, 2022.

With respect to the RTM:

- For Operating Days April 1, 2022, through August 10, 2022, ERCOT is unable to determine accurate prices and will therefore not seek a price correction under ERCOT Protocols Section 6.3(4).
- For Operating Days August 11, 2022, through August 21, 2022, ERCOT is able to determine accurate prices as a result of the second error being resolved. ERCOT is investigating those days for significance, as described in ERCOT Protocols Section 6.3(7). For any Operating Days meeting the criteria for significance, ERCOT will seek a review of prices by the ERCOT Board of Directors (Board) at its next meeting scheduled in October of 2022. ERCOT will provide a follow up Market Notice after the investigation is complete in order to identify any Operating Days for which ERCOT staff will seek Board review.
- ERCOT is reviewing or has reviewed Operating Days August 22, 2022, through August 24, 2022, and will perform price corrections before they are final in the event ERCOT determines one or more of these Operating Days were impacted and meet the criteria for significance, as described in ERCOT Protocols Section 6.3(5). Additional information regarding any RTM prices corrections for these Operating Days can be found on the ERCOT website in the [operating messages](#).

For the DAM, the software is unable to incorporate the missing information into the DAM clearing. Therefore, ERCOT is unable to determine accurate prices for any Operating Days that were potentially impacted. Accordingly, ERCOT will not be seek a price correction for the DAM under ERCOT Protocols Section 4.5.3(4).

**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).

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