



Item 7.2: Day-Ahead Market Price Correction for Incorrect RAS Modeling

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Urgent Board of Directors Meeting

ERCOT Public

October 13, 2020

Issue for Board Consideration

- Prices were impacted by an internal data input error for the Day-Ahead Market (DAM) for Operating Days (ODs) August 20-21, 23, 2020.
- Because the deadline for ERCOT to correct prices for these ODs has passed, ERCOT is seeking Board determination as to whether prices have been “significantly affected by an error,” and if so, authorization from the Board for ERCOT staff to correct prices for some/all of the affected ODs.
 - Note that awarded quantities do not change with a correction to prices.

ERCOT Recommendation

ERCOT recommends that the Board:

- Make a determination that some or all Day-Ahead Settlement Point Prices (DASPPs), Day-Ahead Locational Marginal Prices (DALMPs) and DAM Market Clearing Prices for Capacity (MCPCs) for all Settlement Intervals on ODs August 20-21, 23, 2020, were significantly affected by an internal data input error; and
- Direct ERCOT staff to implement the appropriate price corrections. The meeting material illustrates the corrected corresponding DAM prices.

Background - Timeline

- **August 19, 2020** – A modeling update was made in the ERCOT Network Model to update the status of a Remedial Action Scheme (RAS).
 - The update was manually implemented through the process of a Downstream Production Change (DPC), which is a process to update the Network Model between routine database loads.
 - The purpose of this DPC was to enable the Bearkat RAS, both in ERCOT's Energy Management System (EMS) and Market Management System (MMS). The Bearkat RAS was enabled correctly with the DPC.
 - During the process of this DPC, however, the Stryker Creek RAS was inadvertently disabled for the DAM between ODs August 20 and August 24, 2020. This issue did not impact the Real-Time Market.
- **August 24, 2020** – ERCOT identified the incorrect status of the Stryker Creek RAS in MMS and corrected its status before the start of DAM for OD August 25 2020.
- **August 25, 2020** – ERCOT notified the market regarding a DAM price correction for OD August 24, 2020 and corrected prices before the prices became final.
- **August 27, 2020** – ERCOT issued Market Notice M-A082720-01 regarding incorrect RAS modeling in the DAM and determined that the DAM prices on ODs August 20, 21 and 23, 2020 were also impacted.

Price Correction Impact Review

- ERCOT's analysis used original settled quantities with corrected prices based on DAM reruns in study mode with the Stryker Creek RAS correctly enabled.
 - Note: The Settlement data provided herein is an estimate; final Settlement amounts may differ.
- All Settlement amounts are net amounts due to/from ERCOT in \$ thousands. Negative amounts are increased payments to Market Participants; positive amounts are increased charges.
- The % amount is the absolute value of the % of impact to the previously settled net amount due to/from ERCOT.
- In addition to the DAM impacts detailed herein:
 - Balancing account impacts resulting in additional \$7K funds to be deposited into CRR Balancing account. The amounts paid/refunded due to resettlement will depend on the Balancing Account balance at the time of resettlement.
 - Minimal changes to Real-Time Settlements due to Ancillary Service charges that will be reconciled based on actual Load Ratio Shares.

Price Correction Study for the DAM

- Market: DAM
- Impacted ODs: 8/20/2020, 8/21/2020 and 8/23/2020
- Price Correction Methodology: ERCOT reran the DAM in study mode on these ODs with the Stryker Creek RAS correctly enabled to determine price and Settlement impacts of a price correction.
- The following slides and appendix include ERCOT's analysis of those impacts using the new DAM prices.
 - Quantities (awarded MWs) do not change; only prices.

Potential DAM Price Correction Settlement Impacts

	Energy Purchases		Energy Sales		PTP Purchases		CRR Settlements		AS Payments		Make-whole Payment	
8/20/2020	(76.6)	0.4%	78.8	0.4%	(5.4)	0.8%	8.3	1.4%	10.9	1.7%	0.0	0.0%
8/21/2020	(38.6)	0.2%	40.9	0.2%	(5.0)	0.7%	5.0	0.9%	2.2	0.4%	0.0	0.0%
8/23/2020	(10.9)	0.1%	11.3	0.1%	(2.4)	0.3%	1.8	0.2%	(0.8)	0.1%	0.0	100.0%
8/24/2020*	389.5	1.5%	(387.3)	1.5%	(57.2)	20.3%	66.0	20.2%	(7.5)	1.1%	0.8	26.5%

Note: all Settlement amounts are net amounts due to/from ERCOT in \$ thousands.

* For 8/24/2020, corrected DAM prices were posted prior to becoming final.

Appendix

Potential DAM Price Correction Price Impacts

OD	Count of Changes in Price for the 4 Hubs and 4 Competitive Load Zones across all Hourly Intervals of the Affected ODs							
	< -\$10/MWh	>= -\$10/MWh & < -\$1/MWh	>= -\$1/MWh & < -\$0.1/MWh	>= -\$0.1/MWh & < \$0.1/MWh*	>= \$0.1/MWh & < \$1/MWh	>= \$1/MWh & < \$10/MWh	>= \$10/MWh	No Change
8/20/2020	0	0	81	64	4	0	0	43
8/21/2020	0	0	21	82	12	0	0	77
8/23/2020	0	0	52	40	24	0	0	76
8/24/2020*	0	0	94	17	32	24	0	25

Note: a positive value indicates that the corrected or proposed price is higher than the original price.

* This column does not include prices that were not affected.

** For 8/24/2020, corrected DAM prices were posted prior to becoming final.

Potential DAM Price Correction Settlement Impacts to Counter-Parties

OD	Maximum Impact to Counter-Parties	
	Maximum Amount*	Maximum Percentage**
8/20/2020	4.4	67.6%
8/21/2020	1.5	59.2%
8/23/2020	0.7	2.8%
8/24/2020***	6.8	202.2%

* The maximum of absolute impact to any single Counter-Party in \$ thousands

** The maximum of percentage change to any single Counter-Party with impact more than \$500 (set as NA when no single Counter-Party has impact more than \$500)

*** For 8/24/2020, corrected DAM prices were posted prior to becoming final.



Date: October 6, 2020
To: Board of Directors
From: Kenan Ögelman
Subject: Day-Ahead Market Price Correction for Operating Days August 20, 21, and 23, 2020

Issue for the ERCOT Board of Directors

ERCOT Urgent Board of Directors Meeting Date: October 13, 2020

Item No.: 7.2

Issue:

Whether the ERCOT Board of Directors (Board) should approve price corrections resulting from an internal data input error for Day-Ahead Settlement Point Prices (DASPPs), Day-Ahead Locational Marginal Prices (DALMPs), and Day-Ahead Market (DAM) Clearing Prices for Capacity (MCPCs) for all Settlement Intervals on ODs August 20, 21, and 23, 2020, pursuant to paragraph (5) of Protocol Section 4.5.3, Communicating DAM Results.

Background:

The ERCOT Protocols require ERCOT to correct Day-Ahead Market (DAM) prices when invalid prices are identified in an otherwise valid market solution. If ERCOT determines that DAM prices are erroneous, ERCOT must correct the prices before they are final; prices are final at 1000 of the second Business Day after the OD. However, if ERCOT determines that prices are in need of correction after they are final and seeks Board review of such prices, then ERCOT must notify Market Participants, and describe the need for such correction, no later than 30 days after the OD. The Board may review and change prices if: (a) ERCOT gave timely notice to Market Participants; and (b) the Board finds that such prices were “significantly affected by an error.” See Protocol Sections 4.5.3(4) and (5).

On August 24, 2020, ERCOT became aware of an internal data input error related to the modeling of the Stryker Creek Remedial Action Scheme (RAS) in the DAM. When ERCOT staff executed a manual Downstream Production Change (DPC) in the ERCOT Market Management System (MMS) on August 19, 2020, to enable the Bearkat RAS in the DAM, the Stryker Creek RAS was inadvertently disabled. The Stryker Creek RAS was incorrectly disabled in the DAM for Operating Days (OD) August 20 to 24, 2020. This issue did not impact the Real-Time Market.

ERCOT re-enabled the Stryker Creek RAS in the DAM effective OD August 25, 2020. On that same day, ERCOT issued a Public Notice that it had identified a need to correct DAM prices for OD August 24, 2020, and that ERCOT corrected prices for that OD before they became final.

On August 27, 2020, ERCOT issued a Market Notice detailing the aforementioned data input error. The Market Notice stated that ERCOT's analysis had determined that, in addition to OD August 24, 2020, the data input error impacted prices for ODs August 20, 21, and 23, 2020, and that ERCOT would seek Board approval to correct prices for ODs August 20, 21, and 23, 2020. See Market Notice M-A082720-01. This error did not impact DAM prices for OD August 22, 2020, because no constraint or congestion would have triggered the Stryker Creek RAS on that OD.

This data error impacted prices in the DAM for all Settlement Intervals on ODs August 20, 21, and 23, 2020. The impacted prices include DASPPs, DALMPs and DAM MCPCs.

Request:

ERCOT requests that the Board:

- (a) Review DASPPs, DALMPS and DAM MCPCs for August 20, 21, and 23, 2020;
- (b) Make a determination as to whether such prices were significantly affected by a data input error; and
- (c) Direct/authorize ERCOT to correct some or all DASPPs, DALMPS and DAM MCPCs for the impacted Settlement Intervals on ODs August 20, 21, and 23, 2020.

If the Board authorizes ERCOT to correct DASPPs, DALMPS and DAM MCPCs for ODs August 20, 21, and 23, 2020, the corrected prices will be applied to previously-awarded quantities. Award quantities are not changed as part of a price correction.

Attached hereto are documents containing corrected prices for DASPPs, DALMPS and DAM MCPCs for ODs August 20, 21, and 23, 2020, as follows:

- **Attachment A** – Price Correction DASPPs;
- **Attachments B1, B2, and B3** – Price Correction DALMPs; and
- **Attachment C** – Price Correction DAM MCPCs.

Relevant Protocol Sections:

4.5.3 Communicating DAM Results

- (4) ERCOT shall correct prices when: (i) a market solution is determined to be invalid or (ii) invalid prices are identified in an otherwise valid market solution, unless accurate prices cannot be determined. The following are some reasons that may cause these conditions.

- (a) Data Input error: Missing, incomplete, or incorrect versions of one or more data elements input to the DAM application may result in an invalid market solution and/or prices.
 - (b) Software error: Pricing errors may occur due to software implementation errors in DAM pre-processing, DAM clearing process, and/or DAM post processing.
 - (c) Inconsistency with these Protocols or the Public Utility Commission of Texas (PUC) Substantive Rules: Pricing errors may occur when specific circumstances result in prices that are in conflict with such Protocol language or the PUC Substantive Rules.
- (5) All DAM LMPs, MCPCs, and Settlement Point Prices are final at 1000 of the second Business Day after the Operating Day.
- (a) However, after DAM LMPs, MCPCs, and Settlement Point Prices are final, if ERCOT determines that prices are in need of correction and seeks ERCOT Board review of such prices, it shall notify Market Participants and describe the need for such correction as soon as practicable but no later than 30 days after the Operating Day. Failure to notify Market Participants within this timeline precludes the ERCOT Board from reviewing such prices. However, nothing in this section shall be understood to limit or otherwise inhibit any of the following:
 - (i) ERCOT's duty to inform the PUC of potential or actual violations of the ERCOT Protocols or PUC Rules and its right to request that the PUC authorize correction of any prices that may have been affected by such potential or actual violations;
 - (ii) The PUC's authority to order price corrections when permitted to do so under other law; or
 - (iii) ERCOT's authority to grant relief to a Market Participant pursuant to the timelines specified in Section 20, Alternative Dispute Resolution Procedure.
 - (b) The ERCOT Board may review and change DAM LMPs, MCPCs, or Settlement Point Prices if ERCOT gave timely notice to Market Participants and the ERCOT Board finds that such prices are significantly affected by an error.
 - (c) In review of DAM LMPs, MCPCs, or Settlement Point Prices, the ERCOT Board may rely on the same reasons identified in paragraph (4) above to find that the prices are significantly affected by an error.

Key Factors Influencing Issue:

Due to an internal data input error, DASPPs, DALMPS and DAM MCPCs for all Settlement Intervals on ODs August 20, 21, and 23, 2020, were incorrect and cannot be corrected by ERCOT without authorization from the Board.

ERCOT analysis indicates Settlement impacts, identified by greatest impact for a single affected OD, as a result of a DAM price correction for ODs August 20, 21, and 23, 2020, as follows:

- Day-Ahead Energy Purchases - \$76.6K;
- Day-Ahead Energy Sales - \$78.8K;
- PTP Obligation Purchases - \$5.4K;
- Congestion Revenue Right (CRR) Settlements - \$8.3K; and
- Day-Ahead Ancillary Service Payments - \$10.9K.

The single largest impact to a Counter-Party as a result of a DAM price correction for the ODs at issue is approximately \$4.4K.

Conclusion/Recommendation:

ERCOT recommends that the Board make a determination that some or all DASPPs, DALMPS and DAM MCPCs for all Settlement Intervals on ODs August 20, 21, and 23, 2020, were significantly affected by an internal data input error, and direct ERCOT staff to implement the appropriate price corrections for the ODs at issue.



ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.
BOARD OF DIRECTORS RESOLUTION

WHEREAS, paragraph (5) of Protocol Section 4.5.3, Communicating DAM Results, authorizes the Board of Directors (Board) of Electric Reliability Council of Texas, Inc. (ERCOT) to approve a price correction for certain prices only upon a finding that such prices have been significantly affected by an error; and

WHEREAS, pursuant to paragraph (5) of Protocol Section 4.5.3, ERCOT gave timely notice to Market Participants that DAM prices for Operating Days (ODs) August 20, 21, and 23, 2020, were in need of correction and that ERCOT would be seeking Board review of such prices; and

WHEREAS, after due consideration of the alternatives, the Board deems it desirable and in the best interest of ERCOT to correct some or all Day-Ahead Settlement Point Prices (DASPPs), Day-Ahead Locational Marginal Prices (DALMPs), and Day-Ahead Market (DAM) Clearing Prices for Capacity (MCPCs) for all Settlement Intervals on ODs August 20, 21, and 23, 2020, as such prices were significantly affected by an internal data input error;

THEREFORE, BE IT RESOLVED, that the Board hereby (1) determines that DASPPs, DALMPS and DAM MCPCs for all Settlement Intervals on ODs August 20, 21, and 23, 2020, were significantly affected by an internal data input error, and (2) directs ERCOT staff to implement the appropriate price corrections pursuant to paragraph (5) of Protocol Section 4.5.3, as appropriate.

CORPORATE SECRETARY'S CERTIFICATE

I, Vickie G. Leady, Assistant Corporate Secretary of ERCOT, do hereby certify that, at its October 13, 2020 urgent meeting by teleconference, the ERCOT Board passed a motion approving the above Resolution by _____.

IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of October, 2020.

Vickie G. Leady
Assistant Corporate Secretary