Price Correction Report
Week of November 12 – November 16, 2018

Overview

This document is intended to meet the requirements of ISO Tariff section 35.6, and provides the Market Participants with a summary of all price corrections that occured during the week. For example, report titled with May 5-9, 2014 will cover all corrections made during the week of May 5-9. In a normal situation, it will include trade dates that have price corrections which are due between May 5-9, 2014 based on the five business day for Real-Time market and three business day for Day-Ahead market.

The structure of the report is as follows:
- Price correction listing – this section includes a listing of all the corrections, including market intervals affected, locations, reason (which would tie back to the description of issues section), and method of price correction.
- Description of Issues – this section describes each issue which resulted in a correction in more detail.
- Price-fill report – metrics on the number of empty price intervals that were filled by adjacent interval prices, usually due to failed runs.

For the week covered by this report, **2670** intervals were corrected.

The trade dates covered by this report are:

DAM: 11/7/2018 – 11/13/2018
RTM: 11/5/2018 – 11/11/2018

Correction methodologies
The following are the definitions of the correction methodologies used:

Selective recalculation: The CAISO will selectively recalculate incorrect financially binding prices when the invalid prices are isolated and can be corrected such that no other financially binding prices are affected by the correction.

System recalculation: The CAISO will recalculate all prices for the invalidated market interval using corrected or recreated input data, or repaired software as applicable.

Replacement: If the above correction methods are not applicable and practicable, the CAISO shall use, in place of prices for the binding interval of an invalidated market solution, replicated prices from binding or advisory intervals from the validated market solution in which the market conditions were most similar to the market conditions in the invalidated market solution for the affected interval.

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Price Correction Listing

The following is a list of the corrections made during the week, sorted by date and time. The number to the left of the reason field corresponds to the issue number in the Description of Issues section. The count of corrected Pnode/Apnode for each corrected interval is listed left to the Affected Location field. In case of many intervals with the same correction reason, instead of providing the exact count of corrected Pnode/Apnode, the range of Pnode/Apnode affected is provided and listed in another table. Please note that there are only flex ramp prices corrections for those intervals that have the Count of Corrected Pnode/Apnode column missing.

Corrections made through selective recalculation: 2655

Date	HE	Intervals	Market	#	Reason	Number of corrected Pnodes/Apnodes	Affected Area
11/5/2018	7	1	RTD	4,1	Data Input Error, Software Defect	437	Local
11/5/2018	7	2	RTD	4,1	Data Input Error, Software Defect	484	Local
11/5/2018	7	3	RTD	4,1	Data Input Error, Software Defect	486	Local
11/5/2018	7	6	RTD	4,1	Data Input Error, Software Defect	440	Local
11/5/2018	7	7	RTD	4,1	Data Input Error, Software Defect	445	Local
11/5/2018	7	8	RTD	4,1	Data Input Error, Software Defect	443	Local
11/5/2018	7	9	RTD	4,1	Data Input Error, Software Defect	444	Local
11/5/2018	7	4-5	RTD	4,1	Data Input Error, Software Defect	487	Local
11/5/2018	8	1-12	RTD	3	Software Defect	1372	Local
11/5/2018	13	4-5	RTD	4,1	Data Input Error, Software Defect	470	Local
11/5/2018	7	1	RTPD	4,1	Data Input Error, Software Defect	438	Local
11/5/2018	7	3	RTPD	4,1	Data Input Error, Software Defect	485	Local
11/5/2018	7	2,4	RTPD	4,1	Data Input Error, Software Defect	486	Local
11/5/2018	8	1-4	RTPD	3	Software Defect	1372	Local
11/5/2018	13	3	RTPD	4,1	Data Input Error, Software Defect	448	Local
11/5/2018	13	4	RTPD	4,1	Data Input Error, Software Defect	445	Local
11/6/2018	8	1-7	RTD	3	Software Defect	1372	Local
11/6/2018	10	1-12	RTD	3	Software Defect	944	Local
11/6/2018	8	1-4	RTPD	3	Software Defect	1372	Local
11/6/2018	10	1-4	RTPD	3	Software Defect	944	Local
11/7/2018	8	12	RTD	3	Software Defect	944	Local
11/7/2018	23	8-9	RTD	3	Software Defect	1372	Local
11/7/2018	23	1	RTPD	3	Software Defect	1372	Local
11/8/2018	2	2-12	RTD	3	Software Defect	861	Local
11/8/2018	2	1-4	RTPD	3	Software Defect	861	Local
11/10/2018	18	5-10,12	RTD	3	Software Defect	944	Local
11/11/2018	10	0	DA	6	Data Input Error	146	Local
11/11/2018	11	0	DA	6	Data Input Error	153	Local
11/11/2018	14	0	DA	5,6	Data Input Error	163	Local
11/11/2018	21	0	DA	5	Data Input Error	102	Local
11/11/2018	22	0	DA	5	Data Input Error	99	Local
11/11/2018	12-13,15	0	DA	5,6	Data Input Error	166	Local
11/11/2018	1-7,16-17	0	DA	6	Data Input Error	138	Local
11/11/2018	8,18	0	DA	5,6	Data Input Error	161	Local
11/11/2018	9,19-20	0	DA	5,6	Data Input Error	162	Local
11/11/2018	15	1-12	RTD	3	Software Defect	451	Local
11/11/2018	15	1	RTPD	3	Software Defect		Local
11/11/2018	15	2-4	RTPD	3	Software Defect	451	Local

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The range of corrected Pnode/APnode for the below trade days regarding correction number 1 is 0-33:

Date	HE	Intervals	Market	#	Reason	Affected Area
11/5/2018	7	10-12	RTD	1	Software Defect	Local
11/5/2018	9	1-2	RTD	1	Software Defect	Local
11/5/2018	10	1,3-12	RTD	1	Software Defect	Local
11/5/2018	13	1-3,6-12	RTD	1	Software Defect	Local
11/5/2018	1-6,8,11-12,14-24	1-12	RTD	1	Software Defect	Local
11/5/2018	13	1-2	RTPD	1	Software Defect	Local
11/5/2018	1-6,8-12,14-24	1-4	RTPD	1	Software Defect	Local
11/6/2018	22	4-12	RTD	1	Software Defect	Local
11/6/2018	1-21,23-24	1-12	RTD	1	Software Defect	Local
11/6/2018	22	1-3	RTPD	1	Software Defect	Local
11/6/2018	1-21,23-24	1-4	RTPD	1	Software Defect	Local
11/7/2018	17	1-5,7-12	RTD	1	Software Defect	Local
11/7/2018	23	1-4,8-12	RTD	1	Software Defect	Local
11/7/2018	1-16,18-22,24	1-12	RTD	1	Software Defect	Local
11/7/2018	1-24	1-4	RTPD	1	Software Defect	Local
11/8/2018	1	4-12	RTD	2	Software Defect	Local
11/8/2018	5	1-9	RTD	1	Software Defect	Local
11/8/2018	5	1-9,12	RTD	2	Software Defect	Local
11/8/2018	7	1-9,11-12	RTD	2	Software Defect	Local
11/8/2018	8	1-9	RTD	2	Software Defect	Local
11/8/2018	16	1-11	RTD	1	Software Defect	Local
11/8/2018	16	7-12	RTD	2	Software Defect	Local
11/8/2018	17	2-12	RTD	1	Software Defect	Local
11/8/2018	17	1,4-9,12	RTD	2	Software Defect	Local
11/8/2018	18	3-8	RTD	2	Software Defect	Local
11/8/2018	19	1-7	RTD	1	Software Defect	Local
11/8/2018	20	2-12	RTD	1	Software Defect	Local
11/8/2018	20	2-6,10-12	RTD	2	Software Defect	Local
11/8/2018	21	6-12	RTD	2	Software Defect	Local
11/8/2018	22	4-12	RTD	1	Software Defect	Local
11/8/2018	1-4,6-15,18,21,23-24	1-12	RTD	1	Software Defect	Local
11/8/2018	2-4,22-24	1-12	RTD	2	Software Defect	Local
11/8/2018	6,19	1-6	RTD	2	Software Defect	Local
11/8/2018	16	2-4	RTPD	2	Software Defect	Local
11/8/2018	20	1,3-4	RTPD	2	Software Defect	Local
11/8/2018	1-24	1-4	RTPD	1	Software Defect	Local
11/8/2018	1,15,18	4	RTPD	2	Software Defect	Local
11/8/2018	2-5,7,17,19,21-24	1-4	RTPD	2	Software Defect	Local
11/8/2018	6,8	1-2	RTPD	2	Software Defect	Local
11/9/2018	5	1-6	RTD	1	Software Defect	Local
11/9/2018	5	1-7,12	RTD	2	Software Defect	Local
11/9/2018	6	1-5	RTD	2	Software Defect	Local
11/9/2018	7	1-6,11-12	RTD	1	Software Defect	Local
11/9/2018	7	2-6,11-12	RTD	2	Software Defect	Local
11/9/2018	8	1-10	RTD	2	Software Defect	Local
11/9/2018	9	1-3	RTD	2	Software Defect	Local
11/9/2018	13	10	RTD	2	Software Defect	Local
11/9/2018	14	7-10	RTD	2	Software Defect	Local
11/9/2018	15	4-12	RTD	2	Software Defect	Local
11/9/2018	17	1-7,11-12	RTD	2	Software Defect	Local
11/9/2018	1-4,16,18-24	1-12	RTD	2	Software Defect	Local
11/9/2018	1-4,6,8-15,19-24	1-12	RTD	1	Software Defect	Local
11/9/2018	5	1-3	RTPD	1	Software Defect	Local
11/9/2018	10	1-2	RTPD	2	Software Defect	Local
11/9/2018	13	4	RTPD	2	Software Defect	Local
11/9/2018	14	2-4	RTPD	2	Software Defect	Local
11/9/2018	1-4,6-15,19-24	1-4	RTPD	1	Software Defect	Local

11/9/2018	1-5,7-8,15-24	1-4	RTPD	2	Software Defect	Local
11/9/2018	6,9	1-3	RTPD	2	Software Defect	Local
11/10/2018	5	1-6,10-12	RTD	1	Software Defect	Local
11/10/2018	6	1-8,12	RTD	2	Software Defect	Local
11/10/2018	8	1-7	RTD	2	Software Defect	Local
11/10/2018	9	12	RTD	1	Software Defect	Local
11/10/2018	9	1-9,11-12	RTD	2	Software Defect	Local
11/10/2018	10	1-6,10-11	RTD	2	Software Defect	Local
11/10/2018	11	11	RTD	2	Software Defect	Local
11/10/2018	12	1,4,6-7,10-11	RTD	2	Software Defect	Local
11/10/2018	14	1-3,12	RTD	2	Software Defect	Local
11/10/2018	16	1-2,4-12	RTD	2	Software Defect	Local
11/10/2018	17	1-9,12	RTD	2	Software Defect	Local
11/10/2018	18	1-3	RTD	1	Software Defect	Local
11/10/2018	18	5-6,10-12	RTD	2	Software Defect	Local
11/10/2018	19	2-12	RTD	2	Software Defect	Local
11/10/2018	19	4-9	RTD	1	Software Defect	Local
11/10/2018	20	7-12	RTD	1	Software Defect	Local
11/10/2018	20	1-7,10-12	RTD	2	Software Defect	Local
11/10/2018	21	3-12	RTD	2	Software Defect	Local
11/10/2018	22	1-3,10-12	RTD	1	Software Defect	Local
11/10/2018	23	1,6-11	RTD	2	Software Defect	Local
11/10/2018	1,10-16,21,23-24	1-12	RTD	1	Software Defect	Local
11/10/2018	1-5,7,13,15,22	1-12	RTD	2	Software Defect	Local
11/10/2018	2,17	1-6	RTD	1	Software Defect	Local
11/10/2018	8	1-2	RTPD	2	Software Defect	Local
11/10/2018	11	4	RTPD	2	Software Defect	Local
11/10/2018	12	1-2,4	RTPD	2	Software Defect	Local
11/10/2018	15	2-4	RTPD	2	Software Defect	Local
11/10/2018	17	1-2	RTPD	1	Software Defect	Local
11/10/2018	20	4	RTPD	1	Software Defect	Local
11/10/2018	24	3	RTPD	2	Software Defect	Local
11/10/2018	1,10-16,19,21-24	1-4	RTPD	1	Software Defect	Local
11/10/2018	1-7,9-10,13-14,16-23	1-4	RTPD	2	Software Defect	Local
11/10/2018	2,5	1-3	RTPD	1	Software Defect	Local
11/11/2018	1	2-12	RTD	2	Software Defect	Local
11/11/2018	5	1-4	RTD	2	Software Defect	Local
11/11/2018	6	2-5	RTD	2	Software Defect	Local
11/11/2018	7	1-9	RTD	2	Software Defect	Local
11/11/2018	8	1-2,5	RTD	2	Software Defect	Local
11/11/2018	9	2	RTD	2	Software Defect	Local
11/11/2018	14	1-9,11-12	RTD	1	Software Defect	Local
11/11/2018	15	12	RTD	2	Software Defect	Local
11/11/2018	17	1-3,7-12	RTD	1	Software Defect	Local
11/11/2018	1-13,15-16,18-24	1-12	RTD	1	Software Defect	Local
11/11/2018	2-4,16-24	1-12	RTD	2	Software Defect	Local
11/11/2018	6	1-2,4	RTPD	2	Software Defect	Local
11/11/2018	8	1	RTPD	2	Software Defect	Local
11/11/2018	12	2-4	RTPD	1	Software Defect	Local
11/11/2018	15	3-4	RTPD	2	Software Defect	Local
11/11/2018	16	2-4	RTPD	2	Software Defect	Local
11/11/2018	16	1-2,4	RTPD	1	Software Defect	Local
11/11/2018	1,7	1-3	RTPD	2	Software Defect	Local
11/11/2018	1-11,13-15,17-24	1-4	RTPD	1	Software Defect	Local
11/11/2018	2-5,17-24	1-4	RTPD	2	Software Defect	Local

Corrections made through interval replacement: 15

Date	HE	Intervals	Market	#	Reason	Affected Area
11/7/2018	23	5-7	RTD	8,1	Software Defect	System
11/8/2018	19	8-12	RTD	8,1	Software Defect	System
11/8/2018	20	1	RTD	8,1	Software Defect	System
11/9/2018	7	7-10	RTD	8,2,1	Software Defect	System
11/11/2018	14	10	RTD	9,1	Software Defect	System
11/11/2018	12	1	RTPD	7,1	Data Input Error, Software Defect	System

Corrections made through market rerun: 0

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Description of Issues:

1. **Software Defect:**
   - Invalid prices due to a software defect impacting pricing node LMPs.

   Prices were corrected by selective recalculation and interval replacement.

2. **Software Defect:**
   - Invalid SP-tie LMPs for several pricing locations due to a software defect impacting the GHG component of the LMP.

   Prices were corrected by selective recalculation and interval replacement.

3. **Software Defect:**
   - Invalid prices due to a software defect impacting EIM functionality.

   Prices were corrected by selective recalculation.

4. **Data Input Error:**
   - Invalid congestion due to a data input error related to switch status.

   Prices were corrected by selective recalculation.

5. **Data Input Error:**
   - Invalid congestion due to incorrect outage modeling.

   Prices were corrected by selective recalculation.

6. **Data Input Error:**
   - The constraint should not be enforced because of a local area outage.

   Prices were corrected by selective recalculation.

7. **Data Input Error:**
   - Invalid congestion due to a data input error impacting constraint enforcement.

   Prices were corrected by interval replacement.

8. **Software Defect:**
   - Invalid prices due to a software defect impacting RTCD runs.

   Prices were corrected by interval replacement.

9. **Software Defect:**
   - Invalid prices due to a software issue impacting market solution.

   Prices were corrected by interval replacement.

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Price Fill Report

A price fill occurs whenever a market run failed to publish to the Settlement system. This usually occurs whenever a market run failed, for example when a market fails to come to a solution. It could also occur when an operator decides that a market is not to be run, for example during a contingency event. Automatic price fills also occur in real-time when an operator chooses to utilize the previous interval's solution for the current interval.

Prices are filled according to the rules in CAISO Tariff section 7.7.9 which states that administrative pricing applies to intervals where we have had a market disruption, and requires the prices to be set differently depending on the number of consective market distrputions.

The number of prices which were adjusted by the fill process is as follows.

Total number of filled price intervals: 9

Date	HE	Intervals	Market
11/7/2018	23	6	RTD
11/7/2018	23	7	RTD
11/8/2018	19	9	RTD
11/8/2018	19	10	RTD
11/8/2018	19	12	RTD
11/8/2018	20	1	RTD
11/9/2018	8	8	RTD
11/9/2018	8	9	RTD
11/9/2018	8	10	RTD

Note: Intervals filled are subject to subsequent price corrections where applicable.