

Date: February 13, 2012

To: Board of Directors

From: XO Energy TX LP ("XO Energy")

Subject: Proposed Price Correction for November 24, 2011

At the January 17, 2012 Electric Reliability Council of Texas ("ERCOT") Board of Directors Meeting, ERCOT Director of Wholesale Market Operations John Dumas delivered a presentation entitled "Preliminary Discussion of Potential Price Correction: DC_N Settlement Point (November 24, 2011)" ("Dumas Presentation"). Though no Board action was requested at the time, the Dumas Presentation described a proposed "correction" to the Settlement Point Prices ("SPPs") at the DC_N Settlement Point for certain settlement periods on November 24, 2011, that would reverse a \$4.5 million payout on a PTP Obligation between that point and another settlement point, OKLA_OKLA_G1. The stated basis for the proposed corrections was a "software and data error" related to the modeling of DC_N settlement point. Mr. Dumas subsequently delivered this same presentation at the ERCOT Technical Advisory Committee ("TAC") meeting on February 2, 2012, where he indicated that the proposed correction would be presented to the ERCOT Board for approval at its February 21, 2012 meeting. Contrary to the assertions in the Dumas Presentation, and ERCOT Staff's subsequent written answers to questions submitted by XO Energy,¹ the prices ERCOT Staff proposes to correct were not the result of a data or software error. Any proposed retroactive price adjustment to "correct" these prices is therefore not warranted and unlawful.

In further clear violation of ERCOT's Protocols, ERCOT Staff also failed to notify market participants of the data error within the applicable deadline, or at a minimum, when it began investigating the issue. ERCOT staff still has not posted the revised prices resulting from its proposed correction for market participants to review and evaluate.

Finally, ERCOT Staff's statements to date suggest that it believes the PTP Obligations at issue, and trades related to de-energized busses generally, cannot be

¹ A copy of these responses ("Staff Responses") are included with this submission.

justified and presumably must therefore be the result of some form of market manipulation. As shown in detail below and as supported by the attached Factual Appendix, there is no evidence to support this belief. The bids ERCOT Staff has targeted in this resettlement were submitted in good faith and in accordance with the design and intent of the ERCOT nodal market. ERCOT Staff's single-minded focus on targeting this individual trade has prevented the Board from receiving key factual information regarding the scope of the alleged underlying "errors" or the full implications of the proposed resettlement, both of which are likely to be significant. XO Energy requests that the Board direct ERCOT Staff to examine the circumstances in which similar alleged "errors" have occurred, and report the results of this review. We believe this examination will show the Board that Staff's proposed resettlement here is not only unlawful, but highly selective and unduly discriminatory.

I. The Proposed Resettlement is Not a "Software or Data Error," and Therefore Violates ERCOT Protocols.

Pursuant to the ERCOT Protocols Sections 4.5.3 and 6.3, a final market price can only be changed on a retroactive basis when there has been a "significant software or data error." These rules intentionally limit retroactive price changes to the narrow, rare circumstances in which a significant data or software error has made the market price inaccurate or unreliable, because after the fact price changes are extremely damaging to Market Participants, such as XO Energy in this case, and to the market as a whole. Rather than limit retroactive price changes to extraordinary circumstances intended under the ERCOT rules, Staff has instead chosen to recommend after-the-fact price changes whenever the system model produces financial results it does not like. In fact, this represents at least the third major resettlement involving CRRs or PTPs since December, 2010.² We submit that the retroactive price adjustment proposed here would be clear error and must be rejected.

² In April, 2011 this Board approved a retroactive price resettlement almost identical to the one here, which is currently on appeal before the Public Utility Commission of Texas (Docket No. 39433). In July, 2011, ERCOT approved yet another retroactive price resettlement involving de-energized buses, covering 29 days. ERCOT Press Release, ERCOT News: July Board Meeting Highlights, April 26, 2011.

a. The outage of nodes in the DC_N heuristic table is not a data error.

The Dumas Presentation claims that the absence of price information in the DC_N heuristic table due to real-time outage of certain nearby nodes is a data error, noting that “additional data in the heuristic table could have provided an appropriate price.” Dumas Presentation at 2. However, the data was in fact correct: the nodes in the table were de-energized. The heuristic rules therefore worked precisely as intended and required by the ERCOT Protocols, falling back to additional pre-determined reference Locational Marginal Prices (“LMPs”) to set the price at DC_N. The applicable ERCOT Protocols, Section 6.6.1, assume that there will be circumstances in which the table of nodes is “insufficient” and does not provide sufficient pricing information, and describe alternative representative LMPs to be substituted. This is exactly what occurred here: consistent with Section 6.6.1, the prices were properly established pursuant to the heuristic table. Importantly, if the exhaustion of these nodes were always an error, there would be no need for subsequent steps in the heuristic table. ERCOT Staff improperly and unlawfully characterizes the proper application of the heuristic rules in Section 6.6.1 as a “data error.”

b. Modeling DC_N as de-energized is not a software error.

According to ERCOT Staff, during the intervals proposed for resettlement, the real time software modeled the DC_N settlement point as de-energized, while the tie remained physically connected. Dumas Presentation at 5; Staff Response to question 3. ERCOT Staff characterizes this as a software error, though this modeling was consistent with the instructions included in the software in place at the time, which modeled DC_N as de-energized when there were no imports or exports across the North DC Tie. An actual software error would not produce a valid result. This instruction appears to have been in place, and generating valid results, since ERCOT’s nodal markets were implemented, but Staff has concluded that on November 24, 2011 only, this operation was a software error, because modeling DC_N as de-energized under those conditions directed the software to fall back to the heuristic tables for pricing information, and the heuristic tables produced a pricing result that they do not believe is appropriate. The simple fact that changing the code results may in their view be a “preferable” outcome does not indicate there was an error, just that the code was changed. If parties are to rely on and continue to trade in the

ERCOT markets, software or data error must mean something more than the ERCOT Staff's belief that a pricing outcome was incorrect.

II. Contrary to the Suggestions of the ERCOT Staff, the PTP Obligations its Resettlement Targets Are Not an Attempt at Market Manipulation.

a. ERCOT Staff appear to believe, falsely, that all trading around de-energized busses is market manipulation.

ERCOT Staff's apparent bias has denied the Board essential information regarding the settlement points at issue and prevented any consideration of the good-faith, market-enhancing reasons for the PTP Obligations it has targeted for resettlement. The proposed price correction would retroactively modify the Settlement Point Price ("SPP") at a single settlement point to reduce the payment associated with PTP Obligations terminating at that point from \$4.5 million to zero. ERCOT's Staff's statements to the Board regarding this proposal have framed these Obligations as though there were no circumstances in which they could be valid, because there never should be price separation or congestion between these two points. Dumas Presentation at 5. As described in greater detail below, and as subsequently acknowledged in the response to XO Energy's questions, this is completely false. Similarly, any suggestion that trading around a de-energized DC_N is market manipulation cannot withstand scrutiny, because there is no way the affected parties could have known the buses involved would de-energized prior to submitting their bids. There is no justification for the wholesale violations of established ERCOT Protocols associated with the proposed resettlement.

b. Contrary to statements by ERCOT Staff to the Board suggesting no valid PTP Obligation can be made between the two settlement points, prices at these two points have diverged many times before.

In the January 17, 2012 presentation to the Board, ERCOT Staff stated that "The settlement points at OKLA_OKLA_G1 and DC_N are connected by transmission elements that are electrically close, and therefore should not have different prices due to congestion." *Id.* at 5. The Dumas Presentation further notes that, although the two points do not meet the ERCOT Protocol definition of "Electrically Similar Settlement Points", in which case the PTP Obligation could not have been submitted, they are "electrically close", an undefined term that nonetheless

suggests that the PTP Obligation should not have been submitted.³ *Id.* at 2; Yet despite this, publicly available ERCOT data shows that prior to November 24, 2011:

- DC_N price was higher than OKLA_OKLA_G1 12% of the time.
- OKLA_OKLA_G1 price was higher than DC_N 16% of the time.⁴

In many cases, the price divergence at these points coincided with the presence of a contingency constraint on one of the two parallel 345 kV connections between the two points, suggesting that the price divergence was in fact the result of congestion. Further, in response to questions submitted by XO Energy, ERCOT Staff has since acknowledged that the prices between these two points could diverge when a contingency imposed an operational constraint on the connection between these two points. Staff Response to questions 9, 8(b). Thus, ERCOT's prior statements to the Board suggesting that any PTP obligation between the two points is fraudulent or manipulative is by their own admission, based on a fundamentally false premise.

- c. The circumstances on November 24th, 2011 indicated that a price separation between DC_N and OKLA_OKLA_G1 could occur again.**

On November 24, 2011, there was an outage on one of the two parallel paths between the DC North Tie (DC_N) and Oklahoma Union generating station (OKLA_OKLA_G1), and ERCOT called the PAUL_VERN1_1 constraint, which has the same contingency as was previously observed in times of price separation between the two points. At the time Oklahoma Union was out for maintenance. Based on prior experience, XO Energy reasonably concluded that, in particular if Oklahoma Union came back early from planned maintenance (as suggested by information available from third party system information vendors), the same price difference would be seen. Consistent with the market design, this price separation would incentivize XO Energy to converge these price differences with a PTP Obligation bid.

³ PTP Obligations may not be submitted between Electrically Similar Points. ERCOT Nodal Protocols at 7.5.2.3(7).

⁴ The attached Factual Appendix lists with the other 23 dates on which XO Energy has determined, from publicly available data, that prices between these points have diverged.

- d. There is no way that a party could have known, in placing such a bid, that DC_N would be de-energized, or what the price of DC_N would be in the event it was de-energized.**

If, as Staff appears to believe, the PTP Obligation at issue is manipulative because it involves a de-energized bus, the PTP Obligation holder would have to have known, in advance, that DC_N would be de-energized. Participants such as XO Energy have no ability to determine when a bus is de-energized. If a bus is de-energized in the ERCOT Day Ahead model the trade simply does not clear, a protection for all concerned. ERCOT does not post a list of de-energized busses. If a bus is de-energized in Real Time due to market events Participants such as XO Energy, which do not own generation or transmission, have no way of knowing about the event. Moreover, ERCOT does not provide the DC_N heuristic table to Participants, so there is no way of knowing which nodes are included, much less that those nodes would be de-energized.

- e. The resettlement proposal thus unfairly penalizes a market participant for attempting to use established market mechanisms to respond to anticipated actual system congestion.**

Market Participants such as XO Energy are lawfully entitled to rely on ERCOT's Nodal Protocols and must be able to do so if ERCOT is to retain a vibrant nodal trading market. Although market rules must be improved and fine-tuned over time, ERCOT should not adjust market results retroactively to create results that reflect what the system operator believes should have happened. That is extraordinarily damaging to any market. All ISO systems are absolutely reliant on the fair and consistent application of market rules.

III. ERCOT's Review and Notification of Market Participants Regarding the Proposed Resettlement Violates its Own Protocols.

- a. ERCOT failed to monitor and identify the alleged "software or data errors" prior to prices becoming final, in violation of its Protocols.**

Nodal Protocol 6.3(3) requires ERCOT to monitor Real-Time LMPs and Real-Time SPPs for errors. According to ERCOT Staff, pursuant to this requirement, Real Time LMPs and SPPs are subject to an initial price validation check

intended to identify errors or warn of possible errors. If there are conditions that cause the price to be questionable, ERCOT must “notify all Market Participants that the prices are under investigation as soon as practicable.” Nodal Protocol 6.3(3). Any corrections for errors must be made before Real-Time LMPs, and Real-Time SPPs become final at 1600 of the next Business Day after the Operating Day. Nodal Protocol 6.3(4). ERCOT did not correct any prices for the periods in question before they became final at 1600 on November 28, 2011, nor did they notify Market Participants that the prices for these periods might be questionable. The SPPs were used to calculate the value of the PTP Obligations for this period, and Settlement Statements for that period were issued on December 2, 2011, at which time Market Participants would have concluded, in accordance with ERCOT Protocols, that these prices were error-free and final.

- b. ERCOT inexplicably waited over a month after identifying the price aberration to notify Market Participants that the prices were questionable, in violation of its Protocols.**

ERCOT Staff indicates that it identified a “price abnormality” in early December 2011, as part of an investigation into the large Revenue Neutrality values associated with congestion in the last week of November 2011. ERCOT did not notify Market Participants that the prices might be incorrect until January 10, 2011. That same day, ERCOT Staff posted a presentation for the January 17th, 2011 ERCOT Board Meeting entitled “Preliminary Discussion of Potential Price Correction.” The detailed analysis included in this presentation indicates that the underlying “questionable” prices were the subject of extended investigation. Yet ERCOT has offered no explanation for failing to previously notify market participants that the prices were under investigation as required by the Protocols. Even now, ERCOT still has not posted revised prices so market participants can evaluate the impact of the proposed price correction.

- c. The unlawful delay in notifying Market Participants is inconsistent with the way price corrections are handled by all other ISO markets and FERC precedent.**

In all other organized markets, the market operator must notify market participants within a week or less after the settlement deadline, or the price may not be corrected without FERC or court order.

- CAISO must correct prices no later than the end of the fifth calendar day after the settlement period. Tariff § 35.2.

- MISO must notify the market by 5pm the next calendar day, and correct prices no later than 6 calendar days after. Tariff § 48.3.
- ISO-NE must correct prices no later than 5 business days after. OATT § III.2.9A
- NYISO must notify the market by 5pm the next operating day, and correct prices no later than 3 days after. OATT § 23, Attachment Q 23.3
- PJM must notify the market by noon the second business day, and correct prices by 5pm the tenth calendar day after. Tariff § 1.10.8(e).

CAISO, PJM, and NYISO rules specifically state that prices cannot be corrected after the stated deadline unless they are under review by FERC, and ISO-NE must notify FERC if it cannot correct the prices prior to its deadline. FERC has stated that notifying market participants five business days after the operating day is "excessively long." *New York Independent System Operator, Inc.*, Docket No. ER06-1014-000, Order Conditionally Accepting Tariff Revisions as Modified and Directing Compliance Filing at 10 (July 14, 2006). None of the ISO markets wait weeks or even months to notify market participants of a possible resettlement due to a significant market or data error.

d. ERCOT's delayed notification was extremely harmful to Market Participants, including XO Energy.

Though as other market's rules show, timely notice of errors is always important, this is particularly true here because the period involved, November 24th, was near the end of the calendar and fiscal year. By the time ERCOT Staff first notified market participants that these prices may have been in error, many companies, including XO Energy, had already closed their financial books for 2011. Investors were paid based on the basis of those earnings; employees received salaries based on those results; and tax payments are due shortly based on those financial results as well. Unwinding these results based on any subsequent change in prices will impose a tremendous burden and cost on XO Energy, and likely other market participants.

IV. The Proposed Resettlement is Arbitrary, and ERCOT Staff Has Failed to Provide Sufficient Information Regarding the Scope of the alleged "Errors".

- a. **ERCOT has arbitrarily decided to retroactively change the prices at DC_N only, though this price is used in the calculation of at least three other hub SPPs.**

The ERCOT Protocols dictate that the DC_N price is used in the calculation of the following hub SPPs:

- HB_West (Protocol 3.5.2.4(1), No. 12)
- HB_HUBAVG (Protocol 3.5.2.5(1))
- HB_BUSAVG (Protocol 3.5.2.6(1))

Notwithstanding this, it appears that ERCOT Staff proposes to resettle the market with DC_N energized and re-priced, without changing the prices at these three other hubs. ERCOT's answers to XO Energy's questions on this point were vague, stating only that "prices associated with the DC_N Settlement Point" would be resettled. Staff Response to question 1. It is unclear whether these hub prices are "associated with the DC_N Settlement Point." Changing a single price is inconsistent with ERCOT's own Protocols and pricing methodology, and therefore unlawful: under ERCOT's Protocols all nodes must be priced and treated the same. The implications of the proposed price change also demonstrates why selectively targeting a specific trade by resettling the individual prices in an interconnected, complex market is both difficult and unwise.

- b. **These alleged "software and data errors" have existed for much longer than the period proposed for resettlement, but ERCOT Staff have not provided data needed to evaluate the potential scope of these errors.**

If the exhaustion of the available nodes in the heuristic table is a data error, it is an error which has existed since NPRR 339 (establishing the heuristic tables for de-energized busses) was implemented. Similarly, if modeling DC ties without imports and exports as de-energized is a software error, it is an error that has existed since the start of the market, and potentially at many DC ties other than DC_N. In an attempt to discern the scope of this latter "error," XO Energy asked ERCOT Staff in writing how many intervals DC_N was incorrectly modeled as de-energized. ERCOT's response failed to answer this question, instead restating the periods on November 24, 2011 when prices were "incorrect." Staff Response to question 1. The history, and thus the scope of these data and software errors, remain unknown even though this information is highly relevant to the proposed resettlement.

- c. **ERCOT Staff should be directed to examine the circumstances in which similar results have occurred, and report to the Board 1) the results of this review and 2) why resettlement to address those similar “errors” is not being requested.**

We believe additional examination will show the Board that Staff’s proposed resettlement here is highly selective and unduly discriminatory. ERCOT should examine other circumstances in which outages have resulted in use of prices other than the nodes listed in the heuristic table. Both efforts will likely reveal an impact on numerous RT and DA intervals. In addition, Staff should explain precisely which points are to be resettled, and if the corresponding hub prices are not included, the rationale for excluding these and the specific Protocol that permits such exclusion. Based on our analysis, the proposed resettlement is not only unwarranted but completely arbitrary and discriminatory.

V. The Proposed Resettlement Would Harm the Market and the Public Interest.

Promoting vibrant participation by financial marketers and other participants in ERCOT's nodal market is essential to the success of that market. To that end, it is essential that ERCOT show that it abides by its established Protocols, and that its settled market prices are in fact settled. If the Nodal Market is to achieve sufficient trading volumes to promote efficient market operations, ERCOT must be focused on ways to attract participation, not on unwarranted measures that will increase uncertainty and thereby discourage market entry and trading.

Trading by existing and potential financial participants is extremely beneficial to consumers in Texas, providing a key competitive element that is the primary benefit of organized, competitive electricity markets. Non-traditional market participants such as XO Energy prevent market manipulation issues resulting from the lack of competition among generators, reducing costs to load serving entities. As Mr. Andrew Ott, PJM's Senior Vice President of Markets, was quoted as saying in *Platts Megawatt Daily*, “[I]f we did not have financial participation, we might as well shut [the PJM day-ahead market] down. Essentially, the market could not function without financial participation, period.” In the same article, PJM's market monitor, Joe Bowring, was quoted as saying that “it would be difficult to imagine” day-ahead markets operating effectively without participation by financial players.

VI. Conclusion

As shown above, the proposed price correction cannot be properly attributed to actual data or software errors, and any proposed retroactive price adjustment to “correct” these prices is therefore both unwarranted and unlawful. The Board has been asked to approve this correction without key factual background regarding the scope of the alleged underlying “errors”, or the full implications of the proposed resettlement, both of which are likely to be significant. XO Energy requests that the Board reject this proposed price correction, or at a minimum, direct ERCOT Staff to provide further information to demonstrate that the proposed correction is not unduly discriminatory. Rejecting the proposed correction will demonstrate to participants in ERCOT’s nodal market that ERCOT abides by its established Protocols, and that its settled market prices can be trusted, both of which are essential to promoting the vibrant participation that is essential to the success of the nodal market.

Respectfully submitted,

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Factual Appendix to Submission of XO Energy TX, LP

I. The OKLA_OKLA_G1 and DC_N Settlement Points

The proposed resettlement involves Locational Marginal Prices (“LMPs”) at two ERCOT settlement points: OKLA_OKLA_G1 and DC_N. OKLA_OKLA_G1 corresponds to the 720 MW Oklaunion 1 coal-fired generation facility. The DC_N Settlement Point corresponds to the North DC-Tie, a back-to-back HVDC converter located between American Electric Power’s (“AEP”) ERCOT Oklaunion substation in the ERCOT balancing authority area, and AEP’s Oklaunion substation in the area overseen by Southwest Power Pool (SPP). The North DC-Tie permits the export of power from ERCOT into SPP. These two nodes are electrically connected by a 345 kV line. They do not meet the ERCOT Nodal Protocol 2.1 definition of “Electrically Similar Settlement Points,” and thus PTP Obligations may be placed between the two points.¹

Notwithstanding their proximity, the prices at these nodes have often diverged. Prior to November 24, 2011:

- DC_N price was higher than OKLA_OKLA_G1 12% of the time
- OKLA_OKLA_G1 price was higher than DC_N 16% of the time²

These divergences included periods when ERCOT called for a constraint, including most recently constraint 6558_B, on October 1, 2011. When, as with DC_N and OKLA_OKLA_G1, a price divergence corresponds with a constraint, it often indicates that the divergence is a result of limitations on the capacity of the line

¹ ERCOT Nodal Protocol 2.1 defines Electrically Similar Settlement Points as “Two or more distinct Settlement Points that are either mapped to the same same electrical location in a market model or are mapped to locations electrical location in a market model or are mapped to locations that are connected by a transmission element with a reactance of less than 0.0005 per unit and a rating of more than 9000 MVA.” The Dumas Presentation describes the two settlement points as “electrically close”, a term that is undefined in the ERCOT Protocols. Dumas Presentation at 5.

² At a minimum, DC_N and OKLA_OKLA_G1 experienced price separation on 1/13/2011, 1/31/2011, 2/10/2011, 4/26/2011, 4/27/2011, 6/15/2011, 6/16/2011, 9/7/2011, 9/8/2011, 9/23/2011, 9/28/2011, 10/1/2011, 10/2/2011, 10/3/2011, 10/24/2011, 10/25/2011, 10/26/2011, 11/8/2011, 11/9/2011, 11/24/2011, 11/30/2011, 1/1/2012, and 1/3/2012.

between the two points.³ This constraint prevents prices from converging at these two points, and the difference between the prices at these locations is congestion.

Starting 11/24/2011 16:15:11 PM on November 24, 2011, ERCOT called constraint PAUL_VERN1_1, which has a similar contingency to the 6558_B constraint called on October 1.⁴ There were planned outages in the area, and Oklaunion 1 (OKLA_OKLA_G1) was due back from a maintenance outage. A party could reasonably conclude that, in particular if Oklaunion 1 came back early from its outage, the same price difference between DC_N and OKLA_OKLA_G1 seen previously would appear. In more concrete terms, Oklaunion 1 would be generating power, and due to the constraint, there would be limits on the ability to push this power onto the ERCOT system, leading to congestion. Consistent with the market design, a party would have an incentive to converge these price differences with PTP Obligation bid priced greater than zero.

II. Pricing at DC_N on November 24, 2011

According to ERCOT Staff, during 52 SCED intervals between 6:15:11 PM and 11:25:10 PM on November 24, 2011, the real time software modeled the DC_N settlement point as de-energized, though the tie remained physically connected.⁵ This modeling was consistent with the instructions included in the software model in place at the time, which modeled DC_N as de-energized when there were no imports or exports across the North DC Tie. This instruction appears to have been in place since ERCOT's nodal markets were implemented.⁶ It is unclear based on the information provided by ERCOT Staff whether this instruction (and the subsequent revision) was unique to DC_N, or if it applied to all DC Ties in ERCOT.

When a bus is de-energized, ERCOT's software applies heuristic rules in sequence to determine an appropriate LMP for that location, in accordance with the

³ Under typical conditions, SCED models lines at their rated capacity, but in the event of outages elsewhere on the system a line's capacity may be reduced for modeling purposes in order to limit the potential for outages and maintain overall system reliability. These "contingency constraints" do not necessarily correspond to overloads or physical constraints on the line itself.

⁴ Both 6558_B and PAUL_VERN1_1 share the SOKLABM5 contingency.

⁵ There was no indication in advance that DC_N would be de-energized. ERCOT does not post a list of de-energized busses, and DC_N is not included in the Real Time Shift Factor Report (which can be used to predict congestion between two points). DC_N was not de-energized in the Day Ahead Market. If it was, ERCOT would not have allowed the PTP Obligation at that point to clear.

⁶ The software was revised on January 10, 2012 to keep the DC Tie energized during periods when there are no imports or exports. Staff Response to question 3.

process defined in Nodal Protocol Section 6.6.1. The first step in these rules is to apply “an appropriate LMP predetermined by ERCOT as applicable to a specific Electrical Bus.” Pursuant to this language, ERCOT has developed a “heuristic table” of buses for certain busses, whose LMPs may be substituted for that of the de-energized bus.⁷

Though ERCOT has not prepared heuristic tables for all the busses in its system, the heuristic table for DC_N in effect on November 24, 2011 included the two closest electrical buses, OKLA_5047 and OKLA_5BB7.⁸ Due to an outage at the Oklaunion station, both of these busses were also de-energized, and thus could not be used to set the LMP for DC_N.

Under these circumstances ERCOT’s software determines the LMP by sequentially applying the heuristic rules in Section 6.6.1(b) of the Nodal Protocols. The software will apply

- 1) the average LMP for busses in the same station at the same voltage level;
- 2) if those do not exist, then the average LMP for all busses within the same station, and if those do not exist;
- 3) system lambda.

It is unclear from the information provided by ERCOT Staff to date precisely which of these was used to set the LMP for DC_N, though ERCOT Staff has not suggested that the software failed to properly apply the heuristic rules in Section 6.6.1.

Nodal Protocol Section 6.3(3) requires ERCOT to monitor Real-Time LMPs, and Real-Time Settlement Point Prices for errors. According to ERCOT Staff, pursuant to this requirement, Real Time LMPs and Settlement Point Prices are subject to an initial price validation check intended to identify errors or warn of possible errors.⁹ If there are conditions that cause the price to be questionable, ERCOT must notify all Market Participants that the prices are under investigation as soon as practicable. Any corrections for errors must be made before Real-Time

⁷ Dumas Presentation at 3.

⁸ Dumas Presentation at 5; StaffResponse to question 4(a). ERCOT has not made public the nodes for which ERCOT has established heuristic tables the nodes in those tables, or the process used to selecting either.

⁹ *Id.*

LMPs, and Real-Time Settlement Point Prices become final at 1600 of the next Business Day after the Operating Day. Nodal Protocol Section 6.3(4).

ERCOT did not correct any prices for the periods in question before they became final at 1600 on November 25, 2011, nor did they notify Market Participants that the prices for these periods might be questionable. The LMPs were used to calculate the value of the PTP obligations for this period, and Real-Time Initial settlement statements for 11/24/2011 were issued on 12/2/2011.

III. Investigation and Proposed Resettlement

ERCOT Staff indicates that it identified a “price abnormality” in early December 2011, as part of an investigation into the large Revenue Neutrality values associated with congestion in the last week of November 2011.¹⁰ ERCOT did not notify Market Participants that the prices might be incorrect until January 10, 2011. That same day, ERCOT Staff posted a presentation for the January 17th, 2011 ERCOT Board Meeting entitled “Preliminary Discussion of Potential Price Correction.” The presentation described “aberrational prices” that resulted in a payout of approximately \$4.5 million for PTP Obligations between OKLA_OKLA_G1 and DC_N. There was \$16 million in Revenue Neutrality charges for the month of November 2011, most of which was due to congestion in the Oklahoma area.¹¹

ERCOT Staff has indicated that it intends to “correct” the LMP at DC_N for the intervals at issue by applying the “LMP at DCTM_R_A, DCTM_R_A and OKLA_OKLA_G1, thus reversing the payout of \$4.5 Million on the PTP Obligation.”¹² The market will be resettled using these prices, and “any energy or Congestion Revenue Rights (CRRs) affected in Real-Time by the recommended price correction to the DC_N Settlement Point would be resettled.”¹³ ERCOT Staff has not indicated whether this will include resettling the various hub prices that were calculated using the price of DC_N. This resettlement proposal will be submitted to the ERCOT Board for approval at its February 21, 2012 Meeting.

¹⁰ Staff Response to Question 6(a).

¹¹ Dumas Presentation at 5.

¹² *Id.*

¹³ Staff Response to Question 2.

SCED Pricing Differences prior to 11/24/2011

Time	DC_N	OKLA_OKLA_G1	Difference	Time	DC_N	OKLA_OKLA_G1	Difference
1/31/2011 10:30	\$ 50.46	\$ 82.88	\$ (32.42)	10/2/2011 10:45	\$ (14.24)	\$ (1,865.64)	\$ 1,851.40
1/31/2011 10:35	\$ 48.18	\$ 77.60	\$ (29.42)	10/1/2011 19:10	\$ (9.07)	\$ (1,860.43)	\$ 1,851.36
1/31/2011 10:55	\$ 47.16	\$ 73.12	\$ (25.96)	10/1/2011 7:00	\$ (14.51)	\$ (1,865.87)	\$ 1,851.36
4/27/2011 11:00	\$ (39.13)	\$ (15.76)	\$ (23.37)	10/2/2011 10:42	\$ (13.13)	\$ (1,864.49)	\$ 1,851.36
4/27/2011 10:25	\$ (39.12)	\$ (15.75)	\$ (23.37)	10/2/2011 10:50	\$ (14.54)	\$ (1,865.90)	\$ 1,851.36
4/27/2011 10:50	\$ (38.67)	\$ (15.57)	\$ (23.10)	10/2/2011 15:03	\$ (7.97)	\$ (1,859.30)	\$ 1,851.33
4/27/2011 10:55	\$ (38.16)	\$ (15.15)	\$ (23.01)	10/2/2011 15:10	\$ (7.97)	\$ (1,859.30)	\$ 1,851.33
4/27/2011 10:30	\$ (38.26)	\$ (15.28)	\$ (22.98)	10/2/2011 15:05	\$ (7.97)	\$ (1,859.30)	\$ 1,851.33
4/27/2011 9:45	\$ (36.67)	\$ (13.91)	\$ (22.76)	10/2/2011 15:00	\$ (7.97)	\$ (1,859.30)	\$ 1,851.33
4/27/2011 10:15	\$ (37.69)	\$ (15.00)	\$ (22.69)	10/1/2011 6:55	\$ (14.49)	\$ (1,865.81)	\$ 1,851.32
4/27/2011 11:50	\$ (35.68)	\$ (13.44)	\$ (22.24)	10/2/2011 10:40	\$ (10.77)	\$ (1,692.90)	\$ 1,682.13
4/27/2011 9:50	\$ (34.63)	\$ (12.58)	\$ (22.05)	10/1/2011 7:10	\$ (7.27)	\$ (1,505.94)	\$ 1,498.67
4/27/2011 9:55	\$ (34.71)	\$ (12.71)	\$ (22.00)	10/2/2011 15:15	\$ 22.03	\$ (379.60)	\$ 401.63
4/27/2011 11:25	\$ (35.51)	\$ (13.55)	\$ (21.96)	10/1/2011 19:20	\$ 21.57	\$ (371.79)	\$ 393.36
4/27/2011 11:20	\$ (35.53)	\$ (13.58)	\$ (21.95)	10/2/2011 14:55	\$ 26.60	\$ (109.61)	\$ 136.21
4/27/2011 10:20	\$ (34.93)	\$ (13.20)	\$ (21.73)	10/1/2011 19:15	\$ 27.51	\$ (64.76)	\$ 92.27
4/27/2011 10:00	\$ (34.64)	\$ (12.92)	\$ (21.72)	10/25/2011 22:15	\$ 35.00	\$ (2.43)	\$ 37.43
2/10/2011 6:40	\$ 72.24	\$ 93.92	\$ (21.68)	10/1/2011 19:05	\$ 28.57	\$ (4.90)	\$ 33.47
4/27/2011 8:55	\$ (31.74)	\$ (10.47)	\$ (21.27)	10/25/2011 6:47	\$ 21.79	\$ (10.94)	\$ 32.73
4/27/2011 9:10	\$ (31.48)	\$ (10.38)	\$ (21.10)	1/31/2011 18:35	\$ 22.41	\$ (9.96)	\$ 32.37
1/31/2011 10:40	\$ 43.14	\$ 64.05	\$ (20.91)	1/31/2011 19:00	\$ 22.23	\$ (9.78)	\$ 32.01
4/27/2011 9:00	\$ (31.03)	\$ (10.29)	\$ (20.74)	10/25/2011 6:20	\$ 21.36	\$ (10.60)	\$ 31.96
4/27/2011 9:05	\$ (27.24)	\$ (7.46)	\$ (19.78)	10/25/2011 22:25	\$ 24.23	\$ (6.70)	\$ 30.93
4/27/2011 9:30	\$ (27.12)	\$ (7.87)	\$ (19.25)	10/25/2011 6:15	\$ 20.92	\$ (9.86)	\$ 30.78
4/27/2011 9:35	\$ (26.97)	\$ (7.73)	\$ (19.24)	10/25/2011 22:30	\$ 23.73	\$ (6.57)	\$ 30.30

SCED Pricing Differences after 11/24/2011

Time	DC_N	OKLA_OKLA_G1	Difference	Time	DC_N	OKLA_OKLA_G1	Difference
1/3/2012 3:45	\$ 0.05	\$ 0.35	\$ (0.30)	11/30/2011 11:05	\$ 20.98	\$ (3,220.97)	\$ 3,241.95
1/1/2012 3:05	\$ 15.32	\$ 15.44	\$ (0.12)	11/30/2011 11:15	\$ 20.78	\$ (3,221.06)	\$ 3,241.84
1/1/2012 4:20	\$ 15.52	\$ 15.52	\$ -	11/30/2011 11:20	\$ 20.81	\$ (3,221.03)	\$ 3,241.84
1/1/2012 6:30	\$ 17.33	\$ 17.33	\$ -	11/30/2011 11:10	\$ 20.88	\$ (3,220.92)	\$ 3,241.80
1/1/2012 16:25	\$ 20.31	\$ 20.31	\$ -	11/30/2011 11:25	\$ 20.35	\$ (3,221.35)	\$ 3,241.70
1/1/2012 18:45	\$ 25.58	\$ 25.58	\$ -	11/30/2011 10:45	\$ 20.53	\$ (3,221.14)	\$ 3,241.67
1/1/2012 19:30	\$ 25.80	\$ 25.80	\$ -	11/30/2011 11:00	\$ 20.48	\$ (3,221.19)	\$ 3,241.67
1/1/2012 19:45	\$ 25.81	\$ 25.81	\$ -	11/30/2011 11:30	\$ 20.15	\$ (3,221.51)	\$ 3,241.66
1/1/2012 20:00	\$ 25.11	\$ 25.11	\$ -	11/30/2011 10:55	\$ 20.65	\$ (3,221.01)	\$ 3,241.66
1/2/2012 6:05	\$ 23.00	\$ 23.00	\$ -	11/30/2011 10:50	\$ 20.62	\$ (3,221.01)	\$ 3,241.63
1/2/2012 8:20	\$ 25.13	\$ 25.13	\$ -	11/30/2011 11:50	\$ 19.88	\$ (3,221.72)	\$ 3,241.60
1/2/2012 9:25	\$ 26.02	\$ 26.02	\$ -	11/30/2011 11:45	\$ 19.87	\$ (3,221.72)	\$ 3,241.59
1/2/2012 10:30	\$ 25.96	\$ 25.96	\$ -	11/30/2011 13:10	\$ 22.72	\$ 22.72	\$ -
1/2/2012 10:40	\$ 26.05	\$ 26.05	\$ -	11/30/2011 14:05	\$ 22.55	\$ 22.55	\$ -
1/2/2012 11:30	\$ 25.08	\$ 25.08	\$ -	11/30/2011 16:15	\$ 22.20	\$ 22.20	\$ -
1/2/2012 11:55	\$ 24.82	\$ 24.82	\$ -	11/30/2011 17:20	\$ 22.81	\$ 22.81	\$ -
1/2/2012 20:45	\$ 34.96	\$ 34.96	\$ -	11/30/2011 17:25	\$ 23.09	\$ 23.09	\$ -
1/2/2012 21:55	\$ 25.89	\$ 25.89	\$ -	11/30/2011 17:50	\$ 24.56	\$ 24.56	\$ -
1/3/2012 0:40	\$ 21.65	\$ 21.65	\$ -	11/30/2011 19:50	\$ (4.44)	\$ (4.44)	\$ -
1/3/2012 11:00	\$ (1.05)	\$ (1.05)	\$ -	11/30/2011 22:55	\$ 0.19	\$ 0.19	\$ -
1/3/2012 12:50	\$ (2.27)	\$ (2.27)	\$ -	11/30/2011 23:30	\$ (3.30)	\$ (3.30)	\$ -
1/3/2012 13:05	\$ (1.89)	\$ (1.89)	\$ -	2/1/2012 2:10	\$ 15.47	\$ 15.47	\$ -
1/3/2012 13:10	\$ (1.87)	\$ (1.87)	\$ -	2/1/2012 2:35	\$ 15.46	\$ 15.46	\$ -
1/3/2012 14:10	\$ (0.94)	\$ (0.94)	\$ -	2/1/2012 6:45	\$ 19.29	\$ 19.29	\$ -
1/3/2012 14:15	\$ (1.48)	\$ (1.48)	\$ -	2/1/2012 7:45	\$ 18.30	\$ 18.30	\$ -

SPP Pricing Differences prior to 11/24/2011

Time	DC_N	OKLA_OKLA_G1	Difference	Time	DC_N	OKLA_OKLA_G1	Difference
8/4/2011 13:30	\$ 1,003.08	\$ 2,949.54	\$ (1,946.46)	8/3/2011 14:15	\$ 2,999.73	\$ 993.60	\$ 2,006.13
1/7/2011 6:15	\$ 130.04	\$ 1,268.66	\$ (1,138.62)	10/2/2011 15:15	\$ (7.27)	\$ (1,816.57)	\$ 1,809.30
5/14/2011 15:15	\$ 49.04	\$ 1,020.09	\$ (971.05)	10/2/2011 11:00	\$ (2.64)	\$ (1,289.25)	\$ 1,286.61
8/1/2011 14:45	\$ 1,697.94	\$ 2,111.02	\$ (413.08)	10/1/2011 7:15	\$ 0.29	\$ (1,135.86)	\$ 1,136.15
8/2/2011 17:30	\$ 679.35	\$ 803.34	\$ (123.99)	10/1/2011 19:15	\$ 21.93	\$ (560.20)	\$ 582.13
6/21/2011 15:15	\$ 74.60	\$ 195.11	\$ (120.51)	10/1/2011 7:00	\$ 11.64	\$ (547.41)	\$ 559.05
11/6/2011 23:15	\$ (249.99)	\$ (156.82)	\$ (93.17)	10/2/2011 10:45	\$ 11.99	\$ (525.78)	\$ 537.77
2/22/2011 7:15	\$ 115.33	\$ 184.86	\$ (69.53)	7/19/2011 15:15	\$ 660.39	\$ 280.31	\$ 380.08
8/4/2011 13:15	\$ 768.79	\$ 826.50	\$ (57.71)	11/17/2011 7:45	\$ 335.90	\$ 98.38	\$ 237.52
3/25/2011 5:00	\$ 1,019.25	\$ 1,064.35	\$ (45.10)	10/1/2011 19:30	\$ 25.45	\$ (179.91)	\$ 205.36
2/8/2011 20:30	\$ 935.97	\$ 977.13	\$ (41.16)	4/11/2011 22:15	\$ 615.61	\$ 421.96	\$ 193.65
3/8/2011 6:30	\$ 1,016.36	\$ 1,056.24	\$ (39.88)	10/2/2011 15:30	\$ 27.10	\$ (143.14)	\$ 170.24
10/16/2011 15:15	\$ 44.21	\$ 77.86	\$ (33.65)	6/27/2011 16:15	\$ 564.13	\$ 426.51	\$ 137.62
7/13/2011 14:15	\$ 114.41	\$ 145.58	\$ (31.17)	11/22/2011 21:15	\$ 220.81	\$ 89.18	\$ 131.63
9/13/2011 15:45	\$ 738.51	\$ 768.95	\$ (30.44)	1/20/2011 20:15	\$ 299.40	\$ 196.46	\$ 102.94
4/26/2011 0:30	\$ 0.63	\$ 29.61	\$ (28.98)	11/23/2011 13:15	\$ 310.49	\$ 212.46	\$ 98.03
1/31/2011 10:45	\$ 47.10	\$ 74.44	\$ (27.34)	11/22/2011 22:30	\$ 324.12	\$ 226.90	\$ 97.22
2/10/2011 7:00	\$ 205.54	\$ 231.73	\$ (26.19)	8/21/2011 12:45	\$ 328.48	\$ 237.48	\$ 91.00
6/27/2011 13:45	\$ 950.17	\$ 974.56	\$ (24.39)	7/19/2011 12:15	\$ 409.11	\$ 327.04	\$ 82.07
4/27/2011 10:30	\$ (36.91)	\$ (14.48)	\$ (22.43)	9/2/2011 14:00	\$ 329.43	\$ 248.62	\$ 80.81
3/25/2011 7:15	\$ 51.26	\$ 73.67	\$ (22.41)	4/4/2011 19:15	\$ 1,014.58	\$ 944.77	\$ 69.81
4/27/2011 10:00	\$ (35.12)	\$ (12.93)	\$ (22.19)	11/8/2011 9:15	\$ 84.44	\$ 30.18	\$ 54.26
4/27/2011 11:30	\$ (31.84)	\$ (11.26)	\$ (20.58)	7/18/2011 15:15	\$ 294.93	\$ 242.57	\$ 52.36
4/27/2011 11:00	\$ (32.97)	\$ (12.41)	\$ (20.56)	10/2/2011 15:00	\$ 28.07	\$ (17.34)	\$ 45.41
4/27/2011 9:15	\$ (29.94)	\$ (9.39)	\$ (20.55)	1/25/2011 7:45	\$ 192.56	\$ 150.33	\$ 42.23

SPP Pricing Differences after 11/24/2011

Time	DC_N	OKLA_OKLA_G1	Difference	Time	DC_N	OKLA_OKLA_G1	Difference
1/4/2012 6:45	\$ 48.66	\$ 59.76	\$ (11.10)	11/30/2011 11:30	\$ 20.65	\$ (3,221.14)	\$ 3,241.79
1/21/2012 9:15	\$ 27.49	\$ 37.60	\$ (10.11)	11/30/2011 11:15	\$ 20.69	\$ (3,221.03)	\$ 3,241.72
2/8/2012 18:30	\$ 109.52	\$ 116.99	\$ (7.47)	11/30/2011 11:00	\$ 20.63	\$ (3,185.75)	\$ 3,206.38
1/17/2012 0:00	\$ 11.12	\$ 15.47	\$ (4.35)	11/30/2011 12:00	\$ 20.90	\$ (2,052.22)	\$ 2,073.12
2/13/2012 7:15	\$ 27.36	\$ 29.93	\$ (2.57)	11/30/2011 11:45	\$ 22.50	\$ (1,172.13)	\$ 1,194.63
12/3/2011 9:30	\$ 195.01	\$ 197.56	\$ (2.55)	11/29/2011 17:15	\$ (386.77)	\$ (1,035.15)	\$ 648.38
2/13/2012 6:15	\$ 29.44	\$ 31.71	\$ (2.27)	11/29/2011 1:15	\$ (1,557.77)	\$ (2,092.51)	\$ 534.74
2/12/2012 21:15	\$ 26.67	\$ 28.84	\$ (2.17)	11/28/2011 23:15	\$ (1,592.42)	\$ (2,075.58)	\$ 483.16
1/21/2012 9:30	\$ 27.43	\$ 29.43	\$ (2.00)	11/30/2011 1:15	\$ (1,661.45)	\$ (2,099.93)	\$ 438.48
1/24/2012 17:30	\$ 25.86	\$ 27.62	\$ (1.76)	11/29/2011 17:45	\$ (650.85)	\$ (1,072.63)	\$ 421.78
12/3/2011 9:45	\$ 698.59	\$ 700.23	\$ (1.64)	11/30/2011 2:15	\$ (553.47)	\$ (955.49)	\$ 402.02
11/29/2011 22:30	\$ (1,055.09)	\$ (1,053.62)	\$ (1.47)	11/30/2011 10:15	\$ (671.97)	\$ (1,064.85)	\$ 392.88
12/7/2011 9:45	\$ 32.32	\$ 33.77	\$ (1.45)	11/29/2011 2:15	\$ (621.33)	\$ (1,003.78)	\$ 382.45
1/18/2012 6:15	\$ 24.94	\$ 26.14	\$ (1.20)	11/30/2011 7:45	\$ (592.29)	\$ (949.26)	\$ 356.97
12/11/2011 8:15	\$ 28.38	\$ 29.50	\$ (1.12)	11/29/2011 19:30	\$ (1,780.99)	\$ (2,070.61)	\$ 289.62
12/1/2011 11:15	\$ 28.40	\$ 29.30	\$ (0.90)	11/29/2011 5:15	\$ (1,218.44)	\$ (1,471.88)	\$ 253.44
12/15/2011 17:15	\$ 26.11	\$ 26.97	\$ (0.86)	11/28/2011 10:15	\$ (768.62)	\$ (1,005.45)	\$ 236.83
1/25/2012 17:30	\$ 28.46	\$ 29.28	\$ (0.82)	11/27/2011 20:15	\$ (797.92)	\$ (1,015.52)	\$ 217.60
2/5/2012 21:15	\$ 23.06	\$ 23.83	\$ (0.77)	11/30/2011 8:15	\$ (1,981.15)	\$ (2,173.61)	\$ 192.46
1/21/2012 8:45	\$ 139.99	\$ 140.75	\$ (0.76)	11/29/2011 18:30	\$ (917.51)	\$ (1,080.40)	\$ 162.89
1/4/2012 3:45	\$ 20.97	\$ 21.70	\$ (0.73)	11/30/2011 5:15	\$ (1,925.39)	\$ (2,069.08)	\$ 143.69
12/3/2011 11:15	\$ 30.86	\$ 31.52	\$ (0.66)	1/25/2012 22:15	\$ 390.05	\$ 281.84	\$ 108.21
1/18/2012 7:15	\$ 41.73	\$ 42.37	\$ (0.64)	1/22/2012 18:45	\$ 248.25	\$ 142.60	\$ 105.65
12/6/2011 16:15	\$ 28.87	\$ 29.49	\$ (0.62)	1/4/2012 6:30	\$ 238.50	\$ 160.76	\$ 77.74
1/29/2012 20:45	\$ (5.03)	\$ (4.43)	\$ (0.60)	1/4/2012 6:15	\$ 353.29	\$ 282.25	\$ 71.04

	September 23, 2011	October 1, 2011	November 24, 2011	November 30, 2011
Constraint	6558_B	6558_B	PUAL_VERN1_1	PAUL_VERN1_1
Contingency	SOKLABM5	SOKLABM5	SOKLABM5	SOKLABM5
Description	Okla To Abmb 345 KV / ABMB_OKLA1	Okla To Abmb 345 KV / ABMB_OKLA1	Okla To Abmb 345 KV / ABMB_OKLA1	Okla To Abmb 345 KV / ABMB_OKLA1
Line Outages	From BOMSW To FSHSW	From BOMSW To FSHSW	From BOMSW To FSHSW	From BOMSW To FSHSW
Shift Factors	OKLA: 0.56 DC_N: ?	OKLA: 0.54 DC_N: ?	OKLA: 0.93 DC_N: ?	OKLA: 0.93 DC_N: ?
Pricing Impacts OKLA -> DC_N	Diverged	Diverged	Diverged* *ERCOT Staff argues this was incorrect	Diverged

November 24, 2011 Resettlement Questions

1. What points will have their prices resettled?

The prices associated with the DC_N Settlement Point for Operating Day 11/24/2011 from 6:15:11 PM to 11:25:10 PM are being recommended for price correction.

2. What transactions are being resettled?

Any energy or Congestion Revenue Rights (CRRs) that are affected in Real-Time by the recommended price correction to the DC_N Settlement Point would be resettled. This resettlement would include a recalculation of the Real-Time Revenue Neutrality Allocation for this Operating Day.

3. Please describe the "software calculation error that" caused DC_N to be modeled as de-energized.

Exports across the DC Tie are modeled as load and imports are modeled as generation. The Real-Time software calculation opened a breaker connecting the DC Tie load when there was not any export across the DC Tie. This caused the DC Tie load zone electrical bus to be erroneously marked as dead even though it was physically connected. The software error in combination with the data error in the heuristic table resulted in price errors on Operating Day 11/24/2011.

- a. How long has it existed?

The logic that isolates the DC Tie load zone electrical bus when not exporting power had been in production from the start of the Nodal market (December 1, 2010). The software was revised on January 10, 2012 to keep the DC Tie load zone electrical bus energized under zero export conditions.

- b. How many SCED intervals were DC_N incorrectly modeled as de-energized?

The prices were incorrect for 52 SCED intervals (between 6:15:11 PM and 11:25:10 PM) on Operating Day 11/24/2011.

- c. Did it also affect the Day Ahead market?

No.

- d. Which equipment was modeled as de-energized (e.g. a breaker or switch)?

See response to Question 3a.

- 4. What process was used to populate the heuristic table?

- a. Why were only two nodes chosen for DC_N?

It was assumed that the two closest electrical buses (OKLA_5047 and OKLA_5BB7) on either side of the connectivity node of the line from OKLA station to DC North station were sufficient to calculate the LMP.

- b. Could this same issue occur again if OKLA_5047, OKLA_5BB7, and DCTM_V_A are all de-energized?

Yes. ERCOT has added more electrical buses to the heuristic table and removed the software calculation that de-energized DC_N.

- c. Could this same issue occur at a different Settlement Point with a limited set of nodes in its heuristic table?

Yes, if all the target nodes are de-energized. The heuristic table is not prepopulated for all nodes. If the table doesn't have an entry corresponding to a node, then the LMP of the node, when it is de-energized in the base case, will be determined by the rules stated in Protocol Sections 4.5.1(9)(b) and 6.6.1(b).

- 5. Does ERCOT monitor real time LMPs? Yes.

- a. What method is used to determine if LMPs are questionable or the result of an error?

After each SCED run and each Settlement Interval, an initial price validation check is performed on the Real-Time LMPs and Real-Time Settlement Point Prices. Any errors or warnings of possible errors are analyzed by market analysts and system operations.

- b. What method is used to determine which data or software errors must be corrected by resettlement?

See answer to Question 5a.

- 6. When was ERCOT first aware of this issue?

- a. How was the issue discovered?

In early December 2011, ERCOT identified this price abnormality as part of its investigation of the large Revenue Neutrality associated with congestion on the last week of November 2011.

7. When were market participants notified that Settlement Point prices were questionable and under investigation?

A Notice was sent to all registered Market Participants on 01/10/2012 after ERCOT Staff had concluded that there was a data/software error which resulted in the price abnormality.

8. What is "electrically close"?
a. Where is this term defined?

The term more commonly used is "Electrically Similar". Electrically Similar Settlement Point (ESSP) is defined in Section 2.1 of the ERCOT Protocols.

- b. Can congestion ever occur between two "electrically close" points?

No. However, two Electrically Similar Settlement Points in Real-Time can become separated under a contingency and thus can have price separation when a constraint related to that contingency is binding/violated in Real-Time.

9. Has there ever been congestion between DC_N and OKLA_OKLA_G1 Settlement Points that was not the result of a software calculation error?

The line between DCTM and OKLA substations has never been physically constrained or overloaded in Real-Time. However, the prices at DC_N and OKLA_OKLA_G1 can be different as described in response to Question 8b.