August 31, 2016

VIA ELECTRONIC FILING

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: *Southwest Power Pool, Inc.*, Docket No. ER12-1179-000, ER13-1173-000, and ER12-550-000
Supplemental Informational Report

Dear Secretary Bose:

Pursuant to the Federal Energy Regulatory Commission's ("Commission") orders[1] issued in the above referenced dockets that address Southwest Power Pool, Inc.'s ("SPP") proposal to implement the Integrated Marketplace,[2] SPP submits this additional report as a supplement to the 15 Month Informational Report ("Informational Report")[3] filed by SPP on June 1, 2015.[4]

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1 *Sw. Power Pool, Inc.*, 141 FERC ¶ 61,048 (2012) ("October 2012 Order"), *order on reh'g and clarification*, 142 FERC ¶ 61,205 ("March 2013 Order on Rehearing"), *order on compliance filing*, 144 FERC ¶ 61,224 (2013) ("September 2013 Order"), *order on compliance filing*, 146 FERC ¶ 61,050 ("January 2014 Order"), *order conditionally accepting compliance filing*, 147 FERC ¶ 61,001 (2014) ("April 2014 Order"). *Sw. Power Pool, Inc.*, 144 FERC ¶ 61,032 (2013) ("July 2013 Order").

2 Capitalized terms not defined herein shall have the definitions ascribed in the Tariff.

3 The 15 month informational report was to contain information related to an assortment of Integrated Marketplace issues, functions, and assessments as outlined in the October 2012 Order, the March 2013 Order on Rehearing, the July 2013 Order, the September 2013 Order, the January 2014 Order, and the April 2014 Order.

4 15 Month Informational Report of Southwest Power Pool, Inc., Docket No. ER12-1179-000, *et al.* (June 1, 2015).

I. Introduction

In its series of orders conditionally approving the Integrated Marketplace, subject to further compliance filings, the Commission required SPP to file an informational report 15 months after the commencement of the Integrated Marketplace, which commencement occurred on March 1, 2014. In accordance with the Commission's orders, SPP filed the Informational Report on June 1, 2015 as referenced above. At the time the Informational Report was filed, SPP requested additional time to prepare a response to Paragraph 480 of the October 2012 Order.[5] Paragraph 480 of the October 2012 Order states:

> **PARAGRAPH 480**. In regard to SPP's proposal to use the 97th percentile of estimated reference prices, we note that establishing reference prices, similar to establishing collateral necessary to cover possible losses, involves the modeling of expected outcomes. The reference to "percentile," and in this case "97th percentile," is a statement of how many possible outcomes can be covered in the modeling. In this case, modeling to the 97th percentile indicates the intent is to cover 97 percent of possible modeling outcomes. The level of percentage is an indication of "tail risk" or the ability to cover outlying events. Thus, SPP's proposal is very inclusive of tail risk and is more stringent than other organized markets, such as the [Midcontinent Independent System Operator, Inc. ("MISO")] TEMT.[6] While the Commission finds SPP's level of caution employing the 97th percentile understandable given its lack of experience running day-ahead markets, we will require that SPP revisit its reference prices one year after its market launch in order to determine if is appropriate to maintain this percentile, and to provide the necessary level of detail on projected reference prices. Consequently, we direct SPP to provide an informational filing to the Commission 15 months after market start-up detailing its findings based upon the first 12 months of the operations of the Integrated Marketplace.

SPP requested additional time to respond to the requirement so that the 97th percentile of estimated references prices could be analyzed using actual historical

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[5] Informational Report at 11-12.

[6] At the time the October 2012 Order was issued, MISO's tariff was named "Open Access Transmission and Energy Markets Tariff" (or "TEMT" as referenced by the Commission in the October 2012 Order). MISO's tariff is now named "Open Access Transmission, Energy and Operating Reserve Markets Tariff".

data.[7] SPP's original response to Paragraph 480 suggested the appropriateness of the 97th percentile could be revisited after SPP has successfully performed the after-the-fact analysis on the intended historical data set, or approximately six months from March 2016.[8] SPP has performed the additional analysis and has prepared the following supplemental response to Paragraph 480.

II. SPP Response

SPP Supplemental Response to Paragraph 480:

In Paragraph 480 of the October 2012 Order, the Commission requested that SPP revisit the appropriateness of utilizing the 97th percentile as a means to set the Virtual Reference Prices ("VRP")[9] to be used in the determination of the Market Participant's Estimated Virtual Exposure ("EVE")[10] for virtual transactions in the Integrated Marketplace. Based on SPP's experience in the first year of the Integrated Marketplace's operation, analysis of actual settlement pricing from the Second Quarter of 2016 has led SPP to determine that the 97th percentile should be maintained as the threshold to manage the "tail risk"[11] associated with the virtual market. Conversely, the analysis shows that using the 75th percentile or under to

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7 *Id.*

8 Informational Report at 11-12.

9 In the Integrated Marketplace, a virtual energy transaction can either be a Virtual Energy Bid or a Virtual Energy Offer. Such virtual transactions derives value from the difference between the Day-Ahead Market Locational Marginal Prices ("DALMP") and the Real-Time Market Locational Marginal Prices ("RTLMP") multiplied by the quantity of megawatts ("MWs") awarded during the market's settlement solution.

10 The EVE is the calculation used by SPP to estimate the unknown risk of non-payment for Virtual Market bids and offers. EVE is calculated by multiplying the maximum megawatt ("MW") value of the bid/offer curve times the VRP for the specific settlement location. VRPs are used in the calculation of EVE because it is unknown at the time of the bid/offer what prices will ultimately be cleared by the market solution for each settlement location. VRPs are calculated using the 97th percentile hourly difference from the same quarter in the previous year. In essence, SPP is using actual historical data for each settlement location to estimate the pricing risk for each proposed transaction.

11 Tail risk is the ability of SPP to cover outlying events. Modeling to the 97th percentile indicates SPP's intent to cover 97 percent of possible modeling outcomes.

establish the VRP increases the likelihood that SPP will see under-collateralization during stressful market conditions.

By way of explanation, SPP calculates the VRP for each distinct settlement location rather than one VRP for all settlement locations within the SPP footprint. The Commission noted in Paragraph 480 that SPP's proposal to use the 97th percentile is "more stringent than other organized markets, such as MISO TEMT."[12] There is a sound basis for SPP utilizing its approach. There are fundamental differences in the manner in which SPP and MISO calculates virtual energy credit exposure. MISO's use of the highest differential between the day-ahead and real-time locational prices at the 50th percentile over the previous twelve (12) months yields[13] one VRP used system-wide for all MISO settlement locations per year. SPP's utilization of the 97th percentile at individual settlement locations yields individualized VRP's to accommodate pricing risk for each distinct settlement location. SPP recalculates VRP's for each settlement location on a quarterly basis to account for seasonal fluctuations.[14]

SPP's analysis of the 97th percentile is based on actual data from the Second Quarter of 2016. For Second Quarter 2016, there is a population of 732 Settlement Locations for which a VRP was calculated using historical Second Quarter 2015 DALMPs and RTLMPs.[15] SPP's analysis utilized 2,185 hourly DALMPs for each Settlement Location. With regards to the corresponding RTLMPs for each Settlement Location, the Real-Time Balancing Market settles RTLMPs on a 5-minute basis. As a result, in order to accommodate calculations with the hourly settled DALMPs, SPP averages the settled RTLMPs to represent an hourly value. The 97th percentile represents the average of the 2,119th and 2,120th instances when ordered from least to greatest settled (DALMP-RTLMP) value. As a result, 66 discrete values which have been financially settled in the prior year Second Quarter are not represented

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12 October 2012 Order at P 480.

13 *See generally* Midcontinent Independent System Operator, Inc., Open Access Transmission, Energy and Operating Reserve Markets Tariff at Attachment L, Section V.A.3 posted at the following location: https://www.misoenergy.org/Library/Repository/Tariff%20Documents/Attachment%20L.pdf.

14 Quarterly VRP results are posted on the SPP Marketplace Portal at: https://marketplace.spp.org/web/guest/virtual-reference-prices.

15 The total population of Settlement Locations is 945; however, 213 Settlement Locations have been added since Second Quarter 2015 which use a system average proxy price as opposed to DALMPs and RTLMPs specific to those Settlement Location. Those VRPs have been excluded from analysis.

within the EVE calculation and consequently not collateralized. The average of all VRP's for Second Quarter 2016 is $17.70 per MW hour.[16] The average of all maximum settled prices (DALMP-RTLMP) for all Settlement Locations in Second Quarter 2015 is $86.91 per MW hour.

Table 1 below provides the average, high, and low values for Second Quarter 2016 VRPs and the maximum settled prices (DALMP-RTLMP) for Second Quarter 2015. Table 1 also displays the lowest and highest spread between the VRPs and maximum settled prices for distinct Settlement Locations.

TABLE 1

Dollars per MW hour	Low	Average	High
Second Quarter 2016 VRPs for each Settlement Location	$12.41	$17.70	$51.24
Maximum Settled Prices (DALMP-RTLMP) for each Settlement Location	$35.56	$86.91	$871.67
Spread between Second Quarter 2016 VRPs and Maximum Settled Prices for each Settlement Location	$21.04	$69.21	$855.83

** Note: for presentation purposes, VRPs in this document are shown as a positive value when, in fact, VRP's are actually displayed as negative values to accommodate system requirements indicating a credit liability to the Market Participant.*

Analysis of the data indicates that, even using the 97th percentile of historically similar values, there remains significant credit risk for which SPP's customers may be exposed; as credit losses are socialized among Market Participants.

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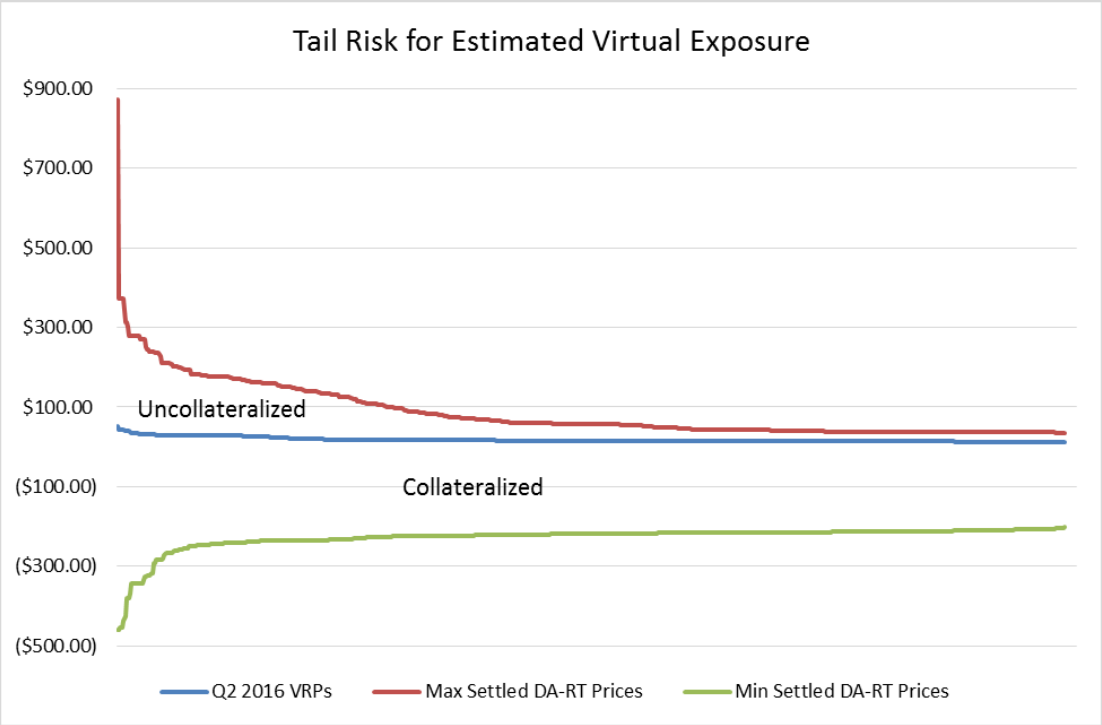
[16] Although as stated above that the SPP-MISO comparison of methodologies is akin to an "apples to oranges" comparison, of particular note is that SPP's analysis estimated that SPP's and MISO's different methodologies are very similar in the resulting pricing. For example, the collateralized virtual transaction bids/offers in the MISO market result in a settlement average price of $7.12 per MW hour. As MISO requires two (2) days of collateral for each bid/offer, the result is an effective collateral requirement of $14.24 per MW hour. Compared to SPP's average requirement of $17.70 per MW hour, the different methodologies are not far off in the collateralization of virtual transactions.

Each Settlement Location requires a distinct collateral requirement; though history has demonstrated there have been settled prices above that calculated collateral requirement. For these reasons, SPP recommends that the 97th percentile be retained as the threshold to determine the VRP for a distinct settlement location within SPP.

Table 2 below shows a distribution of Second Quarter 2016 VRPs for all Settlement Locations in relation to the maximum and minimum settled prices (DALMP-RTLMP) for Second Quarter 2015.

TABLE 2



In Paragraph 480 of the October 2012 Order, the Commission noted that "modeling to the 97th percentile indicates the intent is to cover 97 percent of possible modeling outcomes."[17] Clearly, reducing the percentile utilized to calculate VRPs would result in a reduction in the collateral requirement for Market Participants.

[17] October 2012 Order at P 480.

Table 3 below shows the average, high, and low values for Second Quarter 2016 VRPs utilizing the 75th percentile, and the maximum settled prices (DALMP-RTLMP) for Second Quarter 2015.

TABLE 3

Dollars per MW hour	Low	Average	High
Second Quarter 2016 VRPs for each Settlement Location (97th Percentile)	$12.41	$17.70	$51.24
Pro forma VRPs for each Settlement Location using the 75th Percentile	$4.08	$4.93	$16.47
Maximum Settled Prices (DALMP-RTLMP) for each Settlement Location	$35.56	$86.91	$871.67

Analysis of the data indicates that using the 75th percentile of historically similar values further increases the likelihood of under-collateralization during certain stressful market conditions. Utilizing the 75th percentile would effectively reduce SPP's average collateral requirement from $17.70 per MW hour to $4.93 per MW hour; a reduction of 72%. This would also represent a lower collateralization requirement on a per MW hour basis as compared to the MISO market; the difference being 65% lower than MISO's requirement of $14.24 per MW hour.

In summary, SPP appreciates this opportunity to provide the Commission with additional information, including the specific analysis required by P 480 of the October 2012 Order regarding SPP's use of the 97th percentile to set the VRP for virtual transactions. As stated herein, SPP's believes it is appropriate to retain the 97th percentile requirement in the credit policy. First, utilizing a 97th percentile VRP produces results comparable with MISO's virtual reference price. Second, a 97th percentile threshold allows SPP to continue managing the financial risk associated with virtual transactions in a manner that will provide some certainty to the market and Market Participants. Finally, as demonstrated in SPP's analysis, retaining a 97th percentile will not result in further under-collateralization during stressful market conditions.

III. Additional Information

SPP has electronically served a copy of this filing on all individuals listed on the service lists compiled by the Commission's Secretary in Docket Nos. ER12-1179, ER13-1173, and ER12-550. SPP has also electronically served a copy of this filing on all its Members, Transmission Customers, and Market Participants. A complete copy of this filing will be posted on the SPP web site, www.spp.org, and is also being served on all affected state commissions.

IV. Conclusion

For the reasons stated herein, SPP respectfully suggests that, as contained in the current credit policy under the Tariff, the provisions of the 97th percentile as the threshold to determine the VRP remains appropriate in light of SPP's analysis. Therefore, SPP respectfully requests the Commission accept this supplemental informational filing as responsive to Paragraph 480 of the October 2012 Order.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service lists compiled by the Secretary in Docket Nos. ER12-1179, ER13-1173, and ER12-550.

Dated at Little Rock, AR, this 31st day of August, 2016.

Michelle Harris
Michelle Harris