

# SPP ROADMAP INITIATIVE COMMENT FORM

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## COMMENT SUBMITTER INFORMATION

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## SPP INITIATIVE COMMENTS

**SIR Number:** SIR325

**Initiative Name:** Consider Limitations on Virtual Trading During Emergency Conditions

**Comment Submission Date:** 12/22/2023

**Comments:** The Financial Marketers Coalition (FMC) opposes limitations on virtual trading during emergency conditions. The SPP MMU report, which is the basis for this proposal, is fundamentally flawed. As explained in the attached comments that the FMC submitted to the MMU in 2022, the Virtual Activity Report fails to take into account two significant reasons for the shift in virtual market activity during the 2021 winter event. If virtual activity is restricted during emergency conditions, market participants will be unable to use virtuals to signal imports of physical power in the real-time market. Yet the SPP MMU also found that imports of physical power were critical to SPP during the 2021 winter event.

**Comments of Financial Marketers Coalition Regarding  
MMU Virtual Activity Report**

Submitted By	Companies	Date Submitted
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The Financial Marketers Coalition<sup>1</sup> (“Coalition”) wishes to comment on the analysis and recommendations put forth Virtual Activity Report provided by SPP’s Market Monitoring Unit (“MMU”), specifically regarding the relationship between virtual transactions and physical flows at external interfaces during the 2021 winter event.<sup>2</sup>

The Virtual Activity Report highlights the apparent relative decrease in in daily bid and offer volume during the 2021 winter weather event, and a commensurate proportional increase in virtual activity at the interties. The Virtual Activity Report postulates that this shift occurred because “the best opportunity for financial arbitrage - the primary use of virtual transactions in SPP - would be along the seams at interface settlement locations.”<sup>3</sup> The Virtual Activity Report misses, however, two significant reasons for the shift in virtual market activity.

**1. Overall Decrease in Virtual Market Activity During Winter Weather**

In highlighting shifts in virtual activity during the extreme weather period, the Virtual Activity Report ignores risk and collateral based reasons why market participants may reduce their activity during volatile and unpredictable periods. First, during periods of market volatility, transaction costs to participate in daily transactions increase, including collateral requirements. Generally, market participants post significant amounts of collateral to participate in energy markets. Such collateral requirements increase when market prices increase.

Second, market participants are subjected to risk limits as part of their risk policies. This may include the maximum dollar value of exposure they may face at a given time, or the amount of MW they could bid or offer. Risk limits are set in advance, often codified in written policies

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<sup>1</sup> The Financial Marketers Coalition is an industry trade group made up of independent power marketing companies that trade electricity at wholesale in all of the organized ISO and RTO markets. The coalition is an active participant in many ISO/RTO stakeholder proceedings as well as in proceedings before the Federal Energy Regulatory Commission. Many of the Coalition members currently trade in the CAISO market, or are interested in doing so.

<sup>2</sup> SPP Market Monitoring Unit, *Virtual Activity During the 2021 Winter Weather Event: An Analysis* (Sept. 1, 2022) (“Virtual Activity Report”), available at <https://www.spp.org/Documents/67826/SPP%20MMU%20Winter%20Weather%20Event%20Virtual%20Activity%20report%20v2.pdf>

<sup>3</sup> Virtual Activity Report at 12-13.

requiring procedures to override, and do not increase automatically purely because market prices increase. Assume a market participant's risk policy permitted up to \$5,000 per day in bids in SPP, and Locational Marginal Prices ("LMP") are those set forth in Figure 4-4 of the Virtual Activity Report. During the comparison period identified by the MMU when day-ahead LMP averaged \$15.41/MW, this risk limit would permit approximately 324 MW to be placed. During the winter weather period identified by the MMU when prices averaged \$2,531/MW, this would permit 2 MW to be placed. The market participant's risk policy has therefore forced a change in the market participant's behavior purely due to market pricing volatility.

## **2. Virtual Activity Increase at Interties**

The Virtual Activity Report points to a significant increase in virtual transactions at the interties, and postulates that this increase must be due to increased profitability at the interties. The report overlooks a significant function of virtual bids at the interties: some of these transactions represent flows of energy coming from other markets, and will trigger the implementation of corresponding flows of energy. Those virtual transactions now become day ahead scheduled flows from neighboring jurisdiction such as MISO, PJM or others.

During the 2021 winter weather event, a significant part of the increase in virtual activity was due to imports of power. The Virtual Activity Report highlights the increase in imports,<sup>4</sup> and the increase in virtual buy offers.<sup>5</sup> This is further indicated by the shift in virtual trading from other settlement locations to the interfaces. In these cases, market participants importing power into SPP from a neighboring region placed a buy offers (also known as a dec) at an SPP intertie based on the buying price they were expecting in the neighboring market. For example, if a market participant expected to buy power at \$800/MW in the MISO day-ahead market, they could offer to sell in SPP at the intertie at \$900 in the SPP day-ahead market. If the transaction clears in SPP, then a day-ahead market flow is scheduled between MISO and SPP, becoming a day-ahead transactions between MISO and SPP. SPP settles intertie transactions differently based on whether the transaction is scheduled in the real-time or the day-ahead. If there is a real-time flow, the market participant will be charged a deviation from the day-ahead schedule. However if there is a flow and a virtual position at an intertie, there will be no deviation charge because it is now a physical DA flow. Therefore, the use of a virtual buy bid at the intertie permits a market participant to signal the incoming real-time flow, and avoid the deviation charge that comes from not signaling an expected flow in the day-ahead market.

## **3. Scheduling Real-time and Day-ahead Flow Based on Market Prices**

Market participants who schedule intertie transactions between different ISO will try to make a profit when scheduling a transaction, by selling at a higher price than what they are buying, minus transaction fees and transmission cost. When two neighboring markets settle at the same real-time or day-ahead price, one can expect little or no MW scheduled at the intertie

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<sup>4</sup> Virtual Activity Report at 13 Fig. 2-8, 19.

<sup>5</sup> Virtual Activity Report at 11 ("For offers, the most significant changes were a decrease in megawatts cleared at dispatchable variable energy locations and a very large increase at the megawatts cleared at interface locations.")

between the two markets. For example, if both MISO and SPP clear at \$40/MW, no flow can be profitable given the average \$24/MW transaction fee. This transaction fee includes the price of transmission going from MISO to SPP (estimate of total fee in September 2022), as well as administrative fees. In this scenario, the rational decision for a market participant will be not to schedule the transaction. This means that when price difference between two markets is lower than the transaction and transmission fees, no flow or little flow should occur between those two markets since the market participant will lose money.

However when two neighboring markets settle at different real-time or day-ahead prices, we can expect flows from the lowest priced market to the higher priced market. For example, if the day-ahead or real-time price in SPP is at \$100/MW while the day-ahead or real-time price in MISO is at \$40/MW, then a market participant has economic incentive to schedule either a day-ahead or real-time flow from MISO to SPP given the same \$24/MW transaction fees.

The combination of these elements explains the shift in the virtual market activity, particularly the increase in virtual buy bids, observed by the Market Monitoring Unit in the Virtual Activity Report. Since the cost of collateral and trading risk increased, virtual transactions volume decreased in general. However, since imports transactions were now economical when comparing SPP prices to other jurisdiction, the results was an increase in transactions scheduled at interties. **This change in trading behavior is a rational response to market volatility and the extreme weather event.** It is critical to understand that market participants reacted to the extreme weather conditions by: (1) reducing internal virtual transactions volume, and (2) trying to import as much power as possible into SPP.

#### 4. Study of Real-time Price Spread between MISO and SPP

During the period studied by the Market Monitoring Unit, the real-time spread flowing from MISO to SPP was much smaller than the day-ahead spread.

**Table 1. Real-Time LMP in MISO-SPP and Transaction Costs Prior to Weather Event.**

	Average RT SPP	Average RT MISO	Average Transaction Fee	Average RT Spread
2021-02-12	69	62	45	-38
2021-02-13	99	92	138	-130
2021-02-14	405	170	198	37
2021-02-15	1217	823	45	348
2021-02-16	919	572	91	257
2021-02-17	819	419	202	198
2021-02-18	247	126	212	-91
<b>Total</b>	<b>539</b>	<b>323</b>	<b>133</b>	<b>83</b>

Table 1 highlights the average real-time prices in SPP and MISO, the average daily transaction fee to flow from MISO to SPP and the average spread from MISO to SPP in the days leading up to the extreme weather event. On average, a market participant would lose money flowing from MISO to SPP on February 12-13 and 18, but would make money for the other days. However, for HE 9-12 on the 16<sup>th</sup> of February, MISO issued a max GEN event that curtailed most RT

flows from MISO and PJM going to SPP, so those numbers should not be taken into account when looking at the actual possible RT spread. Here is the modified table:

**Table 2. Modified Prices for MISO Max GEN Event.**

	Average RT SPP	Average RT MISO	Average Transaction Fee	Average RT Spread
2021-02-12	69	62	45	-38
2021-02-13	99	92	138	-130
2021-02-14	405	170	198	37
2021-02-15	1217	823	45	348
2021-02-16	724	615	90	19
2021-02-17	819	419	202	198
2021-02-18	247	126	212	-91
<b>Grand Total</b>	<b>506</b>	<b>323</b>	<b>134</b>	<b>50</b>

Overall, for the seven days analyzed, only two - February 15 and 17 - were profitable for import transactions considering the financial risks related to these transactions. A market participant who scheduled a flow from MISO to SPP either lost money or did not make a risk-adjusted profit for most of this time period.

Markets conditions were much tighter in SPP than in MISO or PJM during the winter weather period. However, looking at hourly real-time prices after transactions fees, the real-time spread from MISO to SPP was positive only 33% of the hours of the extreme winter event. This is very different from the day-ahead spread that is positive 99% of the hours.

A rationale economic answer from market participants faced with losing money would have been to lower real-time flows. **Without DA flows as signaled by virtual bid offers, it is highly probable that imports into SPP would have been much lower.** Yet imports played a critical role during the 2021 winter weather event, and helped prevent further system problems to SPP. SPP itself recognized the critical role that imports played:

During the event, SPP observed the highest level of imports into its market since it went live in March 2014. SPP reached total imports of higher than 7,500 MW during the event and reached a total net scheduled interchange of more than 6,000 MW of imports. These imports were needed to help SPP meet demand and reserve obligations throughout much of the event.<sup>6</sup>

Through that winter storm period, imports helped SPP avoid load shedding, and as SPP noted, the “curtailment of imports was a key factor in the necessity to shed load on both Feb. 15 and

<sup>6</sup> SPP, *A Comprehensive Review of Southwest Power Pool’s Response to the February 2021 Winter Storm* at 66 (Jul. 19, 2021) (“SPP Review”), available at <https://www.spp.org/documents/65037/comprehensive%20review%20of%20spp's%20response%20to%20the%20feb.%202021%20winter%20storm%202021%2007%2019.pdf>

16.”<sup>7</sup> And SPP itself acknowledges, imports from neighboring regions occur **when market participants are incited to enter into interchange transactions.**<sup>8</sup>

## 5. The Virtual Activity Report Makes Several Incorrect Assumptions

In the Virtual Activity Report, the MMU makes several incorrect assumptions which improperly skew the findings of the report.

### A. Behavior Changes

In the Virtual Activity Report, the MMU assumes that it is sufficient to simply remove virtual transactions from their market re-runs, without assuming any other changes in behavior by market participants.

We do not assume any substitution effects made by market participants in the day-ahead market resulting from the removal of virtual transactions. After exploring several theories on what drove virtual trading behavioral changes and examining which market participants were active in virtual trading during the winter weather event, it became clear that virtual trading was primarily speculative. As such, the only change we made was removing virtual transactions from the market, as it is likely we would not expect to see other behaviors / transactions to arise as a substitute in lieu of virtual transactions.<sup>9</sup>

The Virtual Activity Report ignores the role that virtual buy bids play to companies seeking to import power into SPP: for those companies, the purpose of their virtual trading is to secure selling prices in order to schedule transactions from other jurisdictions to import into SPP. These transactions are not speculative virtual transactions, but instead transactions aimed at flowing power into SPP. As explained above, the shift of virtual offers from internal hubs and nodes to interfaces with other markets demonstrates this. As such, if the MMU wishes to remove all virtual transactions from the market, it must also reduce all imports by the amount of virtual buy bids at the interties to remove the virtual bids which represent real-time flows.

### B. Disconnect Between Virtual Bids and Imports

The MMU’s failure to see the connection between virtual buy bids and real-time imports continued in other portions of the report. The report found:

While the market participants with the largest virtual import positions only supplied a fraction of this power in real-time, other market participants stepped in

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<sup>7</sup> SPP Review at 66.

<sup>8</sup> SPP Review at 70 (“The SPP market relies on price signals to incite market participants to submit import interchange transactions when energy supply becomes limited.”)

<sup>9</sup> Virtual Activity Report at 21 (emphasis removed).

in real-time and imported physical imports in excess of the total quantity represented by virtual offers at interface locations.<sup>10</sup>

In making the above assumption, the Virtual Activity Report does not take into account that interties flow from one ISO to another ISO could be curtailed. To reduce the risk of curtailments and to flow the interface virtual offers that did clear in the day-ahead market, market participants often schedule more real-time flows than they cleared in the day-ahead. During the winter weather event, curtailments were significantly increased, as were the risks of curtailments. Therefore, market participants likely scheduled more flows in the real-time to cover for that risk.

### *C. Report Corrections*

The Coalition recommends that the MMU re-run its analysis in the Virtual Activity Report adjusting for its flawed assumptions. In particular, we recommend the MMU consider the following two changes:

- The MMU seems to consider external intertie flows that come from another ISO as independent from virtual transactions. As noted, a rational market participants would not flow a real-time position where the buying price exceeds the selling price. Therefore, we suggest that the re-run should remove any import transaction into SPP that does not have a positive real-time price difference selling into SPP and buying in either MISO or PJM after transaction and transmission costs. As noted above, transaction costs can roughly be assumed to be those reflected in Table 1, above.
- As demonstrated above, virtual buy offers at the interties often represent expected real-time transactions. Therefore, in order to remove virtual transactions from the market for a re-run, the MMU should remove real-time import transactions that match virtual buy offers. . This could be achieved by comparing all virtual cleared offers at the interfaces with all imports at that interface. Only the excess imports over virtual cleared offers should be included in the rerun. Then the MMU could recognize the full value of virtual transactions at the interties considering they brought in imports during critical hours.

## **6. Recommendations**

In the Virtual Activity Report, the MMU makes four recommendations. The Coalition recommends that the MMU revisit Recommendation 1 since the analysis did not factor in the inevitable decrease of imports that would result from the suspension of virtual trading during a scarcity event. Similarly, Recommendation 2 should similarly be revisited in light of the impacts on imports. Overall, given the flaws in the MMU's analysis identified herein, the Virtual Activity Report does not support Recommendations 1 or 2.

The Coalition generally supports Recommendations 3-4. In particular, Recommendation 4 could provide helpful information to SPP.

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<sup>10</sup> Virtual Activity Report at 36.

## 7. Conclusion

The Coalition appreciates the MMU's efforts in analyzing and recognizing the value that virtual transactions bring to the SPP market. The MMU's focus on price convergence and production cost impact were significant. However, the MMU's failure to recognize the link between virtual transactions at the interties and real-time imports is problematic, and resulted in the MMU's inability to factor in the value of imports in the winter weather event. If market participants were to lose the ability to schedule day-ahead transactions at external interties through virtual buy offers, imports would likely be significantly lower because of the additional costs that market participants would face through the deviation between their day-ahead and real-time schedules.

The Coalition highlights the potential risk of approving the MMU's recommendation to suspend virtual trading during scarcity events. If a similar event happens in the future, SPP may receive significantly less imports if virtual transactions are suspended. Market participants would have less predictability as to transactions clearing, and would not be able to secure transmission and schedule transactions the day before an extreme weather event because they would not have any day-ahead positions to flow.

If you have further questions or would like to discuss these comments, please do not hesitate to contact Ruta Kalvaitis Skučas at [ruta.skucas@klgates.com](mailto:ruta.skucas@klgates.com).