UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Houlian Chen	**)**	**Docket No. IN15-3-000**
Powhatan Energy Fund, LLC	**)**	
HEEP Fund, Inc.	**)**	
CU Fund, Inc.	**)**	

REVISED REPLY OF ENFORCEMENT STAFF TO ANSWERS OF HOULIAN CHEN, HEEP FUND, INC, CU FUND, INC., AND POWHATAN ENERGY FUND, LLC

March 3, 2015

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I. Introduction

In their Answers filed on February 2 and February 9, 2015,[1] Chen and Powhatan do not deny their conduct. Instead, they ask the Commission to exonerate them based on what amount to four simple—but erroneous—propositions:

(1) The Commission should ignore what the record shows and instead credit Chen's and Powhatan's *post hoc* rationalizations.

(2) The Commission must permit traders in an RTO to make money in any imaginable way that is not expressly prohibited by the tariff.

(3) Fair notice means that entities get "one free bite" to engage in manipulative practices that vary in any way from previously condemned schemes.

(4) The Commission had jurisdiction in 2008-09 to direct PJM to pay marginal loss surplus allocation (MLSA) to financial traders for their Up-To Congestion (UTC) trades, but today lacks jurisdiction to require those same traders to comply with the Anti-Manipulation Rule in doing those trades.

There is no merit to any of these arguments.

Contrary to Respondents' claims, the relevant facts are as set forth in the Staff Report. In short, after they figured out that loss credit payments would be predictably larger than the transaction costs of UTC trades at certain times of the year, Chen and Powhatan embarked on a scheme to execute millions of MWh of matched-pair round-trip trades—offsetting purchases and sales between the same two locations at the same price at the same time—designed to ensure that the price spreads on the two "legs" would net to zero. They did this massive volume of sham trades for one simple reason: to lay a claim to millions of dollars of loss credit payments without incurring the massive risks that would come with from doing actual spread trades at these huge trading volumes. They did this despite noting that this was "something that nature should not allow" and

[1] Powhatan Energy Fund LLC's Response in Opposition to Order to Show Cause and Notice of Proposed Penalty (filed Feb. 2, 2015) (Powhatan Answer); Answer to Show Cause Order and Request for Oral Argument on Behalf of Houlian Chen, HEEP Fund and CU Fund (filed Feb. 2, 2015) (Chen Answer); Supplemental Answer to Show Cause Order on Behalf of Houlian Chen, HEEP Fund and CU Fund (Chen Supplemental Answer) (filed Feb. 9, 2015).

that “a monkey throwing darts” could make money this way. They did this even though Chen understood that Up-To Congestion trades were supposed to be spread trades aimed at providing arbitrage benefits to the market and knew that his sham trades did nothing of the kind. They did this despite also knowing that, once the market or the Commission found out what they were actually doing, they could lose all of their wrongful gains and PJM would change the rules to prevent them from doing it again.

Respondents’ scheme—including their intent in devising and executing it—was unlawful. The scheme was inconsistent with the statutory mandate requiring just and reasonable rates in the wholesale energy markets, and they knew it. The scheme was deceptive: they led PJM to believe that they were engaged in real and not sham trades, thereby causing the market to distribute millions of dollars of loss credits to them under false pretenses. In fact, the scheme closely resembled practices (Death Star and wash trading) that the Commission long ago found to be manipulative.

Their scheme also impaired, obstructed, or defeated a well-functioning market. Through self-cancelling trades that appeared to be real spread trades, Chen and Powhatan diverted to themselves more than $10 million that should have gone to other market participants. And because the scheme’s relatively small (per MWh) profits meant they could increase their gains only by inflating their trading volume, they reserved huge volumes of transmission capacity—10% of *all* reserved transmission capacity in PJM—that other market participants could have used to enter into real trades.

In their Answers, Respondents try to refute the overwhelming evidence against them by inventing “facts.” They now contend that Chen executed his round-trip trading scheme not simply to “make money by moving electricity in a circle,” as Gates candidly said at the time, but also (or rather) to follow a risky “Home Run” strategy, based on one “leg” of a round trip not clearing, that could lead to windfall gains or to ruinous losses.

They invented this “strategy” after this investigation began. The actual evidence—including Gates’ and Chen’s own testimony in 2010 and 2011—shows that what actually happened is that in June 2010, Chen adopted the round-trip strategy to

minimize risks in the wake of a major trading loss on May 30, 2010. While Chen knew (and told Gates) that there was no way to absolutely eliminate all risk from round-trip trades aimed at collecting MLSA, Gates wanted him to *minimize* the chances of one leg not clearing. Gates insisted on that because he viewed the risks of enormous losses from uncleared legs as potentially "catastrophic," as something he was "very concerned with," as a potential "worst-case scenario," and as "a risk that . . . would [keep] me up at night."

Chen fully understood and fully shared Gates' fears, and assured him that he "wanted to try to as much as [he] could to keep [a broken leg] from happening, to lower the risk that that would happen." Chen did that by choosing paths with very small spreads that made it highly unlikely that one leg would not clear, and he bolstered his security by bidding at prices far above the historic spreads. His cautious approach worked: across roughly12,000 round-trip trade pairs over more than two months, Chen never experienced a single "broken leg."

Chen and Powhatan also challenge the Commission's authority to take enforcement action against them. In so doing, they either ignore or try but fail to refute longstanding precedent that contradicts their position. For instance, they claim that, whatever their motives may have been, they cannot be held liable because neither PJM's tariff nor the Commission's own precedent specifically prohibited this precise scheme. The Commission has rejected that argument on numerous occasions.

Respondents try to distinguish their scheme from other practices that the Commission condemned long ago, but that requires them to emphasize minor differences while remaining silent about the fundamental ways in which their scheme both resembles those earlier schemes and runs afoul of the principles the Commission espoused in other cases.

Respondents contend that the Commission cannot now proceed against them because other regulatory agencies in other factual contexts might tolerate something that they claim is similar. But not only do they fail to distinguish securities precedent that contradicts their argument, Respondents also ignore the Commission's duty to regulate

and enforce the law in a manner consistent with *this* agency's overriding statutory obligation to ensure just and reasonable rates in the very specific context of wholesale energy markets.

Respondents claim they had insufficient notice because no one had tried this *precise* scheme before. But they were fully on notice that the Commission as well as other agencies had already condemned schemes fundamentally similar to theirs, and that the Commission broadly prohibits impeding, obstructing, or otherwise defeating a well-functioning market, which their scheme surely did.

Respondents also challenge the Commission's jurisdiction because their trades did not result in actual delivery of power. But they ignore the Commission's broad and flexible statutory obligation to regulate practices that affect or are otherwise in connection with the sale or transmission of wholesale power. That standard is easily satisfied here: their trades were integrated into PJM's price model and had a direct effect on transmission services.

Also notable is what Respondents do *not* say in their Answers. They do not dispute that they executed offsetting trades for the purpose of collecting MLSA. They do not claim they would have done those trades absent the MLSA. They do not deny that their intent was to "aggressively exploit[] a loophole" in the RTO's tariff.[2] They do not claim that their conduct was specifically authorized by the RTO's tariff. They do not say that the RTO or Market Monitor wanted them to do those trades. And, perhaps most significant, neither they nor their many consultants even try to justify their scheme on economic grounds as benefiting the market in any way.

As discussed in detail below, Respondents fail to rebut the Staff Report. The record evidence shows that Respondents devised and executed a scheme to manipulate the PJM market by entering into round-trip UTC trades that perfectly offset each other, with the manipulative purpose and intent of obtaining the payment of loss credits by

[2] Powhatan Answer at 7.

giving the false impression of entering into legitimate arbitrage transactions. The Commission should hold that (i) market manipulation is not limited to tariff violations (as the Commission has said many times before); (ii) Respondents' scheme is inconsistent with the Commission's longstanding anti-manipulation principles, and is analogous to schemes the Commission (and other agencies) have condemned in the past; (iii) enforcement of the Anti-Manipulation Rule to penalize Respondents is consistent with the Commission's statutory obligations; (iv) the Commission has authority to charge individuals as well as business entities with violating the Anti-Manipulation Rule; and (v) the Commission has jurisdiction over conduct that (like Respondents' trading) affects or is otherwise in connection with the sale or transmission of wholesale power.

Finally, the Commission should find that Respondents' violation was serious because it resulted in the diversion of more than ten million dollars from other market participants, and because it tied up enormous volumes of transmission capacity that other market participants could have used to enter into physical and financial trades. In short, the Commission should determine that Respondents violated the law, and assess the disgorgement and penalties recommended in the Staff Report or that it otherwise determines to be just and appropriate.

II. Respondents Implemented a Manipulative Scheme

The gravamen of Respondents' Answers is that their trades were not manipulative. They do not deny that they executed the enormous volume of round-trip trades described in the Staff Report, transactions that Gates accurately described as a way of "making money by moving electricity in a circle." They do not claim that they *ever* made money on price spreads with their round-trip trades or that any of the "legs" of those trades *ever* broke, even though Chen understood that bona fide UTC trades are arbitrage transactions that promote price convergence and market efficiency and knew that his round-trip trades were designed not to do so. They do not claim they would have placed these trades if they had not expected to collect MLSA on each round trip. Instead, they argue that their trades had a legitimate purpose, that staff's explanation of why their conduct was

unlawful is incorrect, that they did not have scienter, and that the Commission's long-standing interpretation of one of the principal statutes it administers is erroneous.

Respondents are wrong. The contemporaneous evidence shows that Respondents executed their trades to neutralize price spreads so they could massively increase their trade volume to claim millions of dollars of MLSA. The contemporaneous evidence shows that far from designing his trades to increase the chances of one leg breaking, Chen instead assured Powhatan he would do—and in fact did—the opposite, because Gates, relying on what Chen had told him, viewed the danger of a huge loss from a leg breaking as a potentially "catastrophic" "worst-case scenario." Finally, Respondents fail to distinguish the large body of precedent showing that staff's conclusions are correct.

A. Respondents Persist in Advancing a Story—the "Home Run" Strategy—Which Contradicts Their Own Testimony and Has Already Been Disproven

Contrary to the evidence, Respondents claim that they devised and executed the round-trip UTC scheme *not* simply to reliably generate trade volume to harvest MLSA, but rather to do something radically different. In particular, Chen claims (contrary to his sworn testimony) that he pursued a so-called "Home Run" strategy in which he sought to increase his exposure to large price swings by trying to get one leg of his round trip trades not to clear, as a gamble that his and his client's resulting exposure to market forces would result in a profit rather than incur a huge loss.[3] Although Chen had done "exhaustive" analyses of the historical performance of "all the combinations" of potential UTC paths,[4] neither Respondents nor staff have identified any analysis that would substantiate the claim that they expected this supposed gamble to pay off. Instead, Respondents rely on unsubstantiated conjecture,[5] the fact that Chen sometimes set Day-

[3] Chen Answer at 20-29.

[4] Testimony of Houlian Chen Vol. I (Oct. 7, 2010) (Chen Test. Vol. I) Tr. 73:25 –75:5.

[5] Shanker at ¶ 38 (asserting that, if one leg was rejected, "it is *expected* that the position would be possible, as it is *reasonable* to *assume* that the RT spread between the source and sink LMPs

Ahead (DA) bids lower than the $50 cap,[6] and a theoretical study, prepared years after he placed these trades—and using conditions radically different from the ones under which Chen actually traded—purporting to support the claim that Chen must have been pursuing a Home Run strategy in the summer of 2010.

All of these arguments are wrong. Collecting MLSA involved profits per MWh of no more than about a dollar, and therefore the only way to generate large amounts of money from MLSA was to increase trading volume. But large trading volumes would ordinarily mean large risks,[7] and the volumes that Respondents traded—amounting to an hourly average of about *ten percent* of all successfully scheduled MWh against paid transmission reservations in the nation's largest RTO at the time—were of a size that would ordinarily induce anxiety in even the hardiest of traders.

Chen had never before taken large gambles. He had a history of trading conservatively, using a risk-averse approach. So Chen needed to find a way to maintain the volume but reduce that risk with trades aimed at MLSA. He started with a trading strategy pairing an A-to-B (export to MISO) trade with a B-to-C (import from MISO) trade to create effectively a spread between A and C, where the A and C nodes were geographically proximate. Chen's analysis indicated that the resulting A-to-C spread would be minimal because their relative price movements were "correlated" with each

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would narrow relative to the DA due to the direct incentives such a spread would present to other market participants.") (emphases supplied). There is no evidence to support the suggestion that Respondents actually believed this at the time. In fact, there is reason to infer the opposite. *See* Chen Test. Vol. II Tr. 99:13-17 (noting that Chen had observed that it was very rare for Day-Ahead prices to exceed $50, but in the Real-Time it "happens very, very often."); Chen Test. Vol. I Tr. 74:8 9 (Chen identified a "pocket of nodes [that were the] best for importing"); Chen Test. Vol. II Tr. 108:9 – 109:10 (based on "exhaustive research" of the prior five years, Chen identified nodes, including COOK, that were always better for importing from MISO). In sharp contrast to the meticulous analysis Chen performed on his directional UTC spread trades and on his high-volume MLSA capture strategy, there is no evidence that he did any contemporaneous analysis of this issue.

[6] Powhatan Answer at 25-27.

[7] Chen Test. Vol. I Tr. 115:20-23 ("The high volume is because you want to take on more risk, and because you have higher capital and you want to take more risk.").

other (and with MISO).[8] But that strategy backfired when, on May 30, 2010, the "C" node, but not the "A" node, experienced a large price spike across three hours in the Day-Ahead market.

As a result of that brief price spike, Powhatan alone lost more than $176,000 on that one set of trades when the Real-Time market price spread narrowed relative to the price spread in the Day-Ahead market as the "C" node returned to normal. This was a significant setback, and to avoid any future risk that "A" and "C" prices would differ, Chen switched to round-trip trades that perfectly offset one another, *i.e.*, "A-to-B/B-to-A" trades. Under that strategy, as long as both "legs" of the matched pair cleared the Day-Ahead market, the traders were guaranteed to experience no losses (or profits) from the price spread.

Chen made sure that Gates understood that it was still theoretically possible to lose large amounts of money if one leg *failed* to clear. At a meeting in late June 2010 to discuss the round-trip/MLSA strategy, Chen "emphasized [to Gates] the potential [that they] could be making a lot of money [from MLSA], accumulating for 29 days . . . [but] if one day . . . one of the legs rejected, [they] could lose all the money" they had made.[9] And what Chen described was just an example: potential losses from one leg not clearing, which were uncapped, could be far worse than simply wiping out MLSA gains.[10] Gates, who was well-acquainted with this type of risk from the May 30 loss,

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[8] Contrary to Chen's assertion, Enforcement staff has not taken the position that Respondents' springtime A-to-B/B-to-C trades, which were a less direct way to achieve the same result as their summertime A-to-B/B-to-A trades, were non-manipulative. Chen Answer at 5. Because Enforcement staff does not seek any relief as to the A-to-B/B-to-C trades, the Commission need not address whether or not those trades were themselves manipulative.

[9] Chen Test. Vol. I Tr. 101:3-7.

[10] In the ordinary case, counterflow UTC positions are "uncapped," which is to say that the potential upside is limited, but the potential downside is not: The upside is limited to the amount the trader is paid in the Day-Ahead, but then becomes liable to pay whatever the Real-Time price is. Prevailing flow UTC positions are the reverse: the downside is limited to the amount paid in the Day-Ahead market; the trader then receives whatever the Real-Time settlement price is.

testified that he viewed uncleared legs as potentially "catastrophic," as something he was "very concerned with," as a potential "worst-case scenario," and as "a risk that . . . would [keep] me up at night."[11]

To allay Gates' fears, Chen told him that to *minimize* the risk of one leg not clearing, he "basically modeled the day-ahead market and tried to assess situations to keep that risk—to minimize that risk or to try to help minimize that risk."[12] Consistent with that assurance, Chen affirmed in testimony in 2010 (just a few months after the trades) that he "*carefully selected* [his] legs *to minimize* the likelihood that they would get rejected."[13] Similarly, Chen testified in 2011 that he "wanted to try to as much as [he] could to keep [a broken leg] from happening, to lower the risk that that would happen."[14] In other words, he was doing all that he could to ensure that trading profits came only from the MLSA. And he succeeded: across approximately12,000 round-trip trade pairs over more than two months, Chen never experienced an uncleared leg. This was no accident: Chen testified that he "intentionally pick[ed] those nodes. They fluctuate alongside with MISO."[15] That is, not only did Chen pair an A-to-B with a B-to-A, he picked As and Bs whose prices moved in tandem, making it highly unlikely to develop a large spread that would exceed his high bid price.

Today, however, Chen and Powhatan have done an about-face. They now claim that far from fearing and trying to minimize the risk that a "leg" might break, they actually welcomed and sought that outcome. This *post hoc* rationalization contradicts the contemporaneous record evidence, and Respondents' offering this rationalization shows

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Exceptions occur only when the direction of congestion reverses between Day-Ahead and Real-Time.

[11] Powhatan Dec. 17, 2010 Supplemental Response to Data Request #10; Testimony of Kevin Gates Vol. I (Sept. 23, 2010) (K. Gates Test. Vol. I) Tr. 82:23 – 83:24.

[12] K. Gates Test. Vol. I Tr. 83:7-9.

[13] Chen Test. Vol. I. Tr. 64-65.

[14] Testimony of Alan Chen Vol. II (Jul. 20, 2011) (Chen Test. Vol. II) Tr. 67:16-19.

[15] Chen Test. Vol. I Tr. 67:16-17.

their unwillingness to defend what they *actually* did, and amounts to a tacit admission that what they actually did was wrongful.

Respondents ignore their own testimony showing that they feared and sought to avoid uncleared legs. They do not cite a single statement by either Chen or Gates during the period they were trading to support their revisionist version of their own conduct; nor do they cite any contemporaneous analysis by Chen before or during the months he placed the round-trip trades, such as the studies their consultants created after the fact. Respondents, instead, ignore the evidence proving that Chen's actual goal, with Powhatan's blessing, was to eliminate exposure to price spreads to harvest MLSA, while doing everything he could to avoid the risk of an uncleared leg. The record also shows that while Chen sometimes entered bids lower than the $50 cap (*e.g.,* at $35), his lower bid did not materially increase that risk because *all* of Chen's bids were far higher than more than 99% of the historical price spreads on the paths he chose.

1. The Purpose of Respondents' Strategy Was to *Avoid* Any Exposure to Market Price Changes

Contrary to what they now claim,[16] the purpose of Respondents' round-trip UTC trading strategy was to capture MLSA by placing large volumes of UTCs while neutralizing exposure to market prices, specifically, to Locational Marginal Price (LMP) spreads between nodes. There is an abundance of evidence in the investigative record to corroborate this fact and none to the contrary.

As detailed in the Staff Report,[17] when Chen and Gates began their business relationship, Chen traded UTCs as he had for years—to make money by trying to predict price changes between the Day-Ahead and Real-Time markets. When Chen discovered that MLSA was available and could be captured in predictable amounts at predictable times of the year, he and Gates agreed to shift the focus of their trading away from

[16] Chen Answer at 20-29, Powhatan Answer at 25-27.

[17] *Houlian Chen, et al.*, 149 FERC ¶ 61,261, Appendix A, Office of Enforcement Staff Report and Recommendation at 12-23 (2014) (Staff Report).

fundamentals-based trading to MLSA-capture trading, because the latter had become "suddenly risk-free (almost to the point)."[18] Respondents' first step was to identify closely correlated A-to-B/B-to-C trade pairs where they expected minimal price divergence between the A and C nodes in PJM. They traded these pairs in opposite directions to reduce their spread exposure as much as possible. Though pleased with the performance of this strategy, the modest profits it yielded (per MWh) were not enough to satisfy Gates, who was eager to profit more quickly by "rampin' up" the volumes traded in order to take advantage of the much larger MLSA available for distribution in the summer months.[19] So Gates created a new company, Powhatan, for which Chen would trade as previously, but in far greater volumes.[20]

In the very first weekend of Chen's trading for Powhatan, things went wrong. As detailed in the Staff Report (at 23-24), the Day-Ahead price separation between two of the geographically proximate "A" and "C" nodes of his trading—Mount Storm and Greenland Gap—suddenly spiked to over $50 in three separate hours, but returned to the usual minimal spread in the Real-Time.[21] In other words, like the supposed "Home Run" strategy, Powhatan and Chen were suddenly and unexpectedly exposed to price changes through trades intended to collect MLSA. And the market moved against Respondents: the price spike went against Respondents in the Real-Time market, and because of the large trading volumes required to make significant profits on the MLSA strategy, Respondents were left with exposure to unanticipated and large losses. This was a serious setback for them, and Powhatan lost more than $176,000 on that one pair of

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[18] Email from Alan Chen to Kevin Gates (Mar. 5, 2010, 9:37 AM) (POW00016599).

[19] *See* Staff Report at 17-24 and see K. Gates Test. Vol. I Tr. 89:24 – 90:1 (Chen "led us to believe that even after his fees it would be possible to double our money in a year or 100 or 200 percent in a year."); POW00008000-03.

[20] *See* Staff Report at 21-23.

[21] The bids still cleared the Day-Ahead market because the "B" node—MISO—was within $50 of both "A" and "C".

trades that day.[22] Chen was so alarmed by this development that he temporarily stopped most of his trading.[23]

During this brief hiatus, Chen considered what he could do to prevent a recurrence of the events of May 30. He explained in testimony that his solution was to "shrink those two nodes, take as one," which allowed him to "reduce the day-ahead spread to zero."[24] In other words, he decided to shift from his A-to-B/B-to-C MLSA capture scheme to a round-trip MLSA capture scheme (namely, A-to-B/B-to-A), which would "reduce the day-ahead spread to zero." In so doing, as he knew and as anyone in his position would have realized, the round trips cancelled out all of his exposure to changes in market prices between the Day-Ahead to the Real-Time markets and effectively eliminated the possibility of either profits or losses from UTC spreads. He also knew that this manner of trading was no longer arbitrage and that it could not promote price convergence and market efficiency—which he knew were the reasons those trades were permitted in the first place.

While Chen was prepared to do all he could to minimize his exposure to UTC price risk, he realized it was impossible to eliminate that risk altogether; there was always a chance (inherent in all UTC trades) that one of the legs might "break"—meaning it would not clear because the spread in the Day-Ahead market would exceed the bid amount (or $50, which was the bid cap). He explained this to Gates. In late June 2010, several weeks after Chen had begun implementing the round-trip A-to-B/B-to-A version of his MLSA strategy, Chen met with Gates and some of his colleagues at Powhatan to discuss their trading. Gates later stated (in response to staff's data requests) that Chen described two strategies during that meeting—a "directional" strategy aimed at favorable UTC price changes, and an MLSA-based strategy that sought to eliminate UTC price

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[22] Staff Report at 21-23

[23] *Id*.at 23.

[24] Chen Test. Vol. I Tr. 79:22-25.

changes in favor of far greater volumes in order to profit from MLSA. Gates says that Chen described the two strategies as follows:

> (i) those where he was taking a significant directional bet, and *the spread between two nodes introduced a lot of risk/return* to the trade, and
>
> (ii) those where *he tried to remove the directional risk*, and isolate the bet that the transmission loss credit would exceed transaction costs.[25]

As to the risk that one leg of a pair of round-trip UTCs would break, "Gates requested that Chen quantify the risk, and Chen responded that while it does not occur often, *when it does occur, it could be catastrophic*. Chen agreed that he would notify Powhatan if there were any concerns with 'legs' not being accepted into the auction going forward."[26]

Gates made the same point in his testimony. In the fall of 2010, Gates testified that in their June 25, 2010 meeting, he and Chen "discussed the risks of a leg of a trade

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[25] Powhatan Dec. 17, 2010 Supplemental Response to Data Request #10 (emphasis supplied). Chen implemented both strategies. It is only the second strategy – "where he tried to remove the directional risk" – that is at issue in this proceeding.

Chen makes much (Chen Answer at 16, 18) of his "unmatched" trade volumes, but there is not and never has been any issue about those trades. That is, in addition to placing matched A-to-B/ B-to-A trades, Chen sometimes also placed some one-way spread trades on an A-to-B path, which were not matched by B-to-A trades. That is, Chen chose to do a certain number of ordinary spread trades using the same node pairs on which he was doing matched volume trades.

Staff has never sought to have the Commission penalize Chen or Powhatan for unmatched, one-way trade volumes, and Respondents and their experts have always understood this. *E.g.*, Written Submission To Commission Investigation Staff on Behalf of Dr. Houlian Chen at 7 (Dec. 10, 2010) ("The *particular 'paired' trades at issue* sometimes made money and other times lost money") (emphasis supplied); Chen Answer Exh. J, Comments of Roy J. Shanker at ¶ 30 (Shanker) (discussed "matched UTC trades"); Chen Answer Exh. M, Affidavit of Richard G. Wallace at ¶ 55 (Wallace) (discussing trades in which "Chen entered bids for [UTC] going to and from the same two locations"). That is, to the extent that Respondents' trades took "a significant directional bet," staff has not included those trades in calculating harm, penalties, or disgorgement. Because UTC trades settle on an hourly basis, staff evaluated them on an hourly basis: Offsetting volumes within the same hour "remove[d] the directional risk"; non-offsetting volumes in an hour took "a directional bet."

[26] Powhatan Dec. 17, 2010 Supplemental Response to Data Request #10 (emphasis supplied).

not being accepted into the marketplace,"[27] and that Chen had told him that he used computer modeling "to ensure that both legs of the trade were accepted."[28] In his own testimony in 2010 and 2011, Chen repeatedly confirmed that in fact he did what he assured Gates he would do, namely to design his trades to minimize, *not to increase*, the chances that one leg of a round-trip trade would fail to clear. In 2010, for example, Chen acknowledged that he "carefully selected [his] legs to minimize the likelihood that they would get rejected."[29]

Whatever Respondents may assert now, their sworn statements from 2010 and 2011—oral and written—in which they recount their conversations and the understandings they had reached *at the time the trades were occurring* demonstrate that they always intended to avoid price spreads with their MLSA capture strategies and, conversely, never sought to have "legs break," because that could result in losses that would swamp their MLSA gains. After May 30, when the initial version of their strategy failed due to an unexpected price spike, for example, Chen redoubled his efforts to reduce, as much as possible, the risk of a similar reversal. To be sure, Chen knew there was "no way you can be *certain* that a leg won't be rejected"[30]—after all, UTC trades are subject to a $50 bid cap—and he disclosed that fact to Gates. But the switch from the A-to-B/B-to-C strategy to an A-to-B/B-to-A strategy would have made no sense if Respondents were actually *seeking* exposure to price spreads.

Because Respondents' net profit per MWh from MLSA was relatively small, the only way to make a significant net profit was to magnify their trading volume tremendously. But the only way to do *that*, while managing downside risk, was to reduce

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[27] K. Gates Test. Vol. I Tr. 74:18-19.

[28] K. Gates Test. Vol. I Tr. 75:4-10.

[29] Chen. I Test. Tr. 65:1-4. And he affirmed that when he was successful in achieving this objective – which was on all round-trip trades – his profits came from the MLSA. Chen I Tr. 66: 9-15. Chen here was speaking specifically about CU Fund, but he later testified that he structured his trades for HEEP and Powhatan in the same way. Chen. II Test. Tr. 109:20.

[30] Chen Test. Vol. II. Tr. 67:12-15.

or eliminate the risk of a change in prices. And in turn, the best way to do *that*—as Chen discovered—was simply to pair two offsetting trades to mathematically eliminate price spreads. Put simply, the whole point was to avoid as much as possible the type of price spike they experienced on May 30 and thereby to dodge the "catastrophic" risks that Gates so feared.

2. Chen's Bids Were Calculated to Be Far Above Historic Day-Ahead Price Spreads

Without confronting the fact that Chen would have been betraying Gates and deliberately exposing Powhatan to risks it deeply feared, and ignoring Chen's own repeated, contrary sworn testimony, Respondents now claim that Chen was actually trying to *increase* his exposure to price changes by generating uncleared legs. Unable to cite a single contemporaneous statement by Chen or Powhatan to support that claim, the only support they offer for this theory is that Chen sometimes bid $35 rather than $50, and that—they say—"the *only* conceivable" reason Chen would ever bid less than $50 for his round-trip trades was to increase the chances that one leg would not clear.[31] They are wrong.

In his testimony and other statements in this investigation in the months after he placed these trades, Chen offered several reasons why he used $35 bids; *none of them* involved his using $35 bids as a way to encourage broken legs. In fact, in his very first written submission to staff (on December 13, 2010), Chen gave a completely different explanation for his bids below $50. Chen explained that he "frequently put in up-to-congestion bids at prices below $50 per MW (such as $25 or $35 per MW), *so that he*

[31] *See*, *e.g.*, Powhatan Answer at 26 ("The *only* conceivable purpose to Dr. Chen sometimes using a cap lower than $50/MWh, such as $35/MWh, was to increase exposure to a leg not clearing.") (emphasis supplied); Chen Answer at 23 ("The only conceivable purpose to Alan sometimes using a cap lower than $50/MWh, such as $35/MWh, was to increase exposure to a leg not clearing."); Powhatan Answer at 27-29; Affidavit of Houlian Chen, Exh. A to Chen Answer at ¶ 22 (Chen Affidavit) ("The only reason to offer at $35 is to invite greater potential for a leg *not* to clear.") (emphasis in original).

could limit the day-ahead premium paid to hold his position."[32] And regardless of whether Chen was trying to do that, or trying to "fly under the radar,"[33] or simply felt like putting in a lower bid,[34] or anything else, there is one thing that is crystal clear about his UTC bids: he was not trying to have them rejected.

When Chen gave testimony in July 2011, staff questioned him extensively on this subject, including by asking whether having a leg rejected was something he ever wanted or was seeking. The testimony Chen offered in response to that line of inquiry contradicts what he now claims:

> Q. [W]hen you put in your bids, did you want one of your legs rejected? Is that something that you were seeking to have happen?
>
> A. *My goal is not to asking for that would be rejected*. It is I imagine [it] could possibly [be] rejected, but *I'm not really trying to asking for it*.[35]

Following clarification from staff that "to say something was a purpose means that that's what you set out to do," Chen affirmed again that he was not "purposely asking . . . to be rejected on one of the legs," though he was mindful of the "possibility" (because "you cannot guarantee a hundred percent") that if a leg was rejected he could still "make money."[36] In fact, Chen described the prospect of a leg being rejected in terms of the profoundly unlikely—"events you could never imagine in your life," such as the collapse of Lehman Brothers and the price separation between the two PJM nodes that caused the losses Respondents suffered on May 30, 2010.[37] In light of his awareness that unforeseen events such as these nonetheless occur from time to time, Chen emphasized that it was

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[32] Written Submission to Commission Investigation Staff on Behalf of Dr. Houlian Chen at 34 (Dec. 13, 2010) (Chen Initial Submission) (emphasis supplied).

[33] Chen Answer at 15.

[34] Chen Test. Vol. II Tr. 109:20 – 110:5.

[35] Chen Test. Vol. II Tr. 61:18 – 62:1 (emphasis supplied) (objection omitted).

[36] Chen Test. Vol. II Tr. 62: 10 – 63:11.

[37] Chen Test. Vol. II Tr. 64:19 – 65:8.

possible only to reduce the likelihood of this occurring, not to prevent it altogether.[38] With that caveat, Chen was clear that he did what he could to reduce the risk of rejection and to increase the likelihood that both legs would clear.[39] His subsequent claim that he bid $35 on some of Powhatan's round trips because he "wanted to increase" the chances of a leg being rejected is not credible.[40] One cannot simultaneously attempt to "increase the possibility that both bids would clear" while at the same time attempting to "increase" the possibility that one bid would be rejected. The latter claim, coming shortly after a recess and months after a hired expert wrote an affidavit about the supposed desirability of trying to get legs rejected, is inconsistent not only with the bulk of Chen's testimony, but with all of the other record evidence discussed in the Staff Report and this Reply.

Chen was later asked how he decides location, timing, volume, and price of his bids for "directional" (non-round-trip) trades, and whether he made "changes" or "modifications in terms of your bids" on the "paired trades."[41] As for the directional trades, Chen stated that he bid them to ensure they cleared, pointing out that uncleared bids are "basically . . . just giving money away."[42] He stated:

> A. …. *Bid price, I'm trying to get that transaction approved. Since if you just [get] rejected—basically you're just giving money away,* OASIS and all the charges *related, you just—if the trade's rejected, no gain, only loss. So you want to keep that trades. The only way to make money is that trade approved,*

[38] Chen Test. Vol. II Tr. 66:2-9.

[39] Chen Test. Vol. II Tr. 66:10-22, 67:10 – 68:1.

[40] Chen Test. Vol. II Tr. 95:13 – 97:17. Because Respondents' agreement required Chen to trade one MW for HEEP Fund for every 20 he traded for Powhatan, this testimony applied to HEEP Fund as well, but not to CU Fund, which he always bid at $50. It is worth noting that if $35 really did make a difference in the *actual* likelihood of *actual* trades clearing – and it surely did not – Chen would have been in derogation of his fiduciary duty to Powhatan and his personal promise to Gates to do everything he could to minimize the likelihood that a trade would be rejected. That he felt that the $35 he bid for Powhatan was as effective as the $50 he bid for CU Fund to achieve what he promised Gates, further undercuts Respondents' claim that a $35 bid reflected an attempt to have a leg of a round-trip trade rejected.

[41] Chen Test. Vol. II Tr. 107:16 – 109:10.

[42] Chen Test. Vol. II Tr. 109:21-23.

and that's why if I say today is not very hot, I may pick at 35. Tomorrow it's a hot day, maybe I pick 50, and that's kind of just based on my kind of feelings.

Q. *So when you would lower from the $50 bid to 25—bid 25 or 35, you—it was still your assessment that that had a high likelihood of clearing.*

. . . .

A. *Yes, sir . . .*[43]

Referring to an exhibit (prepared by staff) that separated Powhatan's paired, round trip trades that are the subject of the Staff Report from other trades,[44] staff, seeking to ensure that it properly interpreted the scope of Chen's answers in the above colloquy and the types of transactions the answers applied to, stated his understanding that Chen's answers in that preceding colloquy applied to "transactions that are *not* equal and opposite" (*i.e.*, not the ones at issue in this proceeding). In response, Chen first said, "yeah," and then proceeded to say, "same as [the other] category – all the category[ies], actually."[45] For those directional UTC trades, he testified that he wanted to ensure that they cleared the market because "if the trade's rejected, no gain, only loss."[46] In other words, Chen confirmed that whether he was making a "directional" UTC or a UTC that he intended to use in a paired, round-trip trade, he always set his bid prices so that his transactions would clear.

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[43] Chen Test. Vol. II Tr. 109:21 – 110:17 (emphasis added).

[44] See Attachment A. The referenced document, Chen Test. Vol. II Exh. 5, relates specifically to trades on behalf of Powhatan. Similar documents, which relate to trades on behalf of HEEP (Chen Test. Vol. II Exh. 6) and CU Fund (Chen Test. Vol. II Exh. 4) were also discussed at deposition and are included in Attachment A. All of these documents (along with related transactional data from PJM) were provided to Chen and his counsel in July 2011, prior to Chen's second deposition. (The July 2011 deposition was erroneously designated "Volume I".) Given the production of this material to Chen years ago – along with the detailed descriptions of the trading at issue in the Preliminary Findings Letter, the 1b.19 Notice, and the Staff Report – Respondents' assertion that "we never have been given any specific information about which transactions Enforcement considers manipulative" is false. Chen Supplemental Answer at 1.

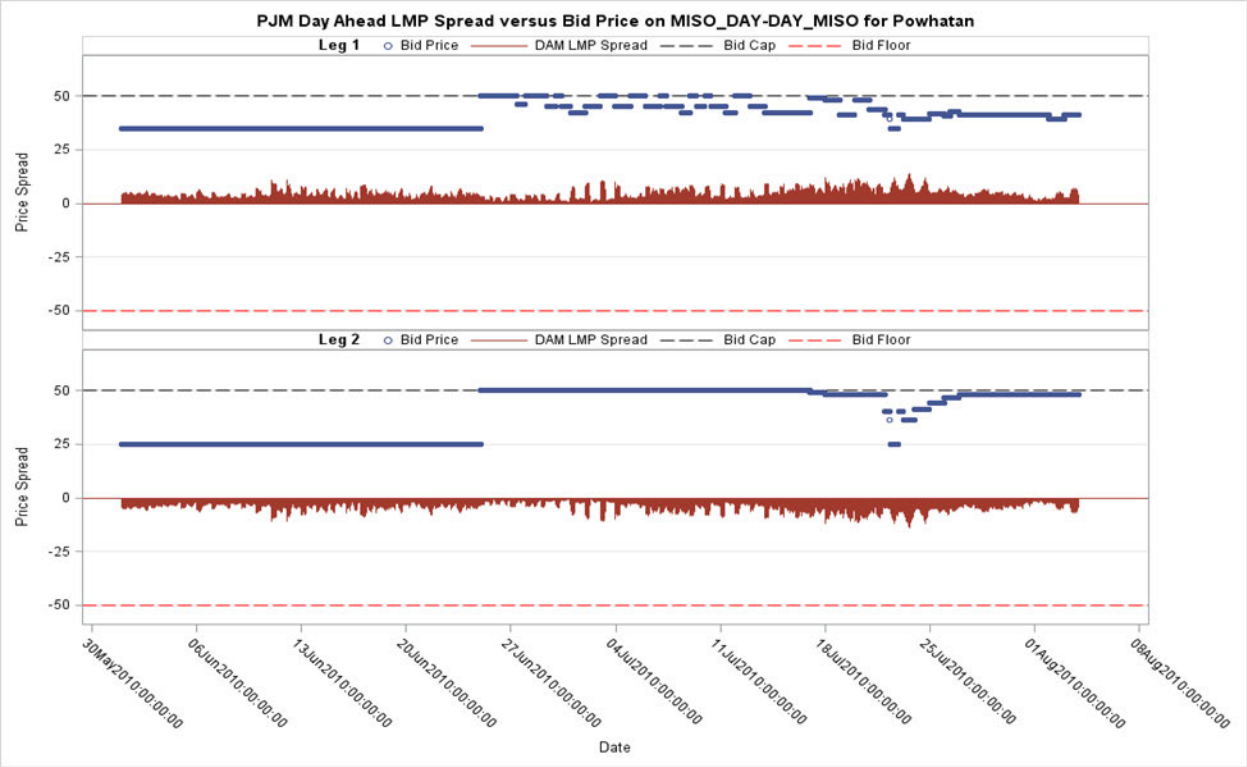
[45] Chen Test. Vol. II Tr. 110:18-21 (emphasis added).

[46] Chen Test. Vol. II Tr. 109:24-25.

Respondents seem to want the Commission to believe that round-trip UTCs, which were often submitted for the same paths and during the same hours as their non-manipulative directional UTC trades, somehow clear the Day-Ahead market differently from other UTC bids. But that is not possible. Every trade on a given path in a given hour are subject to the same LMPs and the same bid cap, without regard to whether it is a non-manipulative directional trade or one leg of a manipulative round-trip trade. And since Chen *always* bid his directional trades to clear no matter what bid price he used—as he testified, if it doesn't clear, "basically you're giving money away" and facing "no gain, only loss"—Respondents' argument collapses. Bids do not clear differently when they are paired than when they are not because the same Day-Ahead clearing price applies to both types of trades in the same manner.

The data corroborate the only reasonable inference that can be drawn from Chen's testimony: Respondents' expected their round-trip UTC bids to clear without fail, as indeed they did. Even at $25 or $35, Respondents' bids were never in real danger of breaking, as the graphic below for the MISO-DAY/DAY-MISO pair illustrates.[47]

[47] Results for other paths are generally similar, though with fewer bids below the cap. Powhatan's bids, by contract, mirrored the bids placed on behalf of HEEP Fund. CU Fund's bids are not relevant to this analysis, because they were always placed at the $50 cap.



Moreover, as noted in the Staff Report, even at $25 or $35, Respondents' bids were far in excess of more than 99% of the historical Day-Ahead spreads on the paths where they were placed.[48] In fact, between July 1, 2005[49] and June 1, 2010, when Respondents began implementing their scheme, only two of the five principal paths Respondents used to effectuate their round-trip trading scheme (MISO-AEP and MISO-COMED) had *ever* experienced Day-Ahead prices above $50; on all five, Day Ahead prices above $20 were rare. Of the five main paths, only AEP-MISO had experienced Day-Ahead prices above $20 in the 12 months preceding Respondents' trading. Respondents have never contended that they had reason to believe any such spikes were likely in the summer of 2010, and Chen's testimony makes clear that he did not believe it

[48] Staff Report at 55 & n.292.

[49] The PJM data set used in this case goes back to July 1, 2005.

was likely.[50] Chen states in his affidavit that prevailing flow bids on the paths where he placed the vast bulk of his round-trip UTCs

> *only clear[] under normal or less stressful market conditions* (or when the market is in its comfort zone). When the market is under duress, the Day-Ahead spreads between the source and the sink would exceed the range limit of ±$50 and the trades would simply vanish…[51]

But Chen's bids cleared every single time. This was neither a surprise nor an accident, as he selected paths where divergent price spikes were unlikely and set his bids at levels far above Day-Ahead spreads in well over 99% of all hours from January 2008 to December 2010 and every single hour in the 12 months preceding his implementation of the scheme.[52] Chen's concept of "normal or less stressful market conditions" therefore, is an unusually robust one.

Respondents submit a chart purporting to show that a hypothetical "home run" strategy targeting profits on export paths—which is to say a strategy of seeking exposure to price changes on counterflow paths at certain price caps—would have been successful on the principal round-trip trade paths "across a range of caps."[53] This argument is not only wholly counterfactual, but it does not even show what it purports to show. To begin with, the spread revenues available under Respondents' counterfactual scenario are trifling—between $0.02/MWh and $0.22/MWh—and that is *before* paying larger transaction costs that would have made the strategy unprofitable in any event.[54] But even

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[50] *See* Chen Test. Vol. II Tr. 99:6-17 (based on his review of historical performance, Chen believed Day-Ahead prices on MISO-COOK and MISO-COMED had never exceeded $50 and determined that it was highly likely for bids to clear on all five of his principal round-trip trading paths).

[51] Chen Aff. at ¶ 8 (emphasis in original).

[52] Here, as elsewhere in this Reply and throughout the Staff Report, staff relies on trading data received from PJM. These data were produced to Chen in 2011 and produced again to Chen (and also to Powhatan) in 2014.

[53] Chen Answer at 27.

[54] Staff estimates these values by estimating the hypothesized aggregate profits from trading every hour across all 80,352 hours between 7/1/2005 and 8/31/2014. These estimated profits, of

though the chart appears to be conservative since it only shows congestion profits (rather than the entire price spread from congestion and losses), these results are inflated because Respondents included four years' worth of data from *after* Respondents' trading. Chen based his trading on the analysis of past performance: "I tend to anticipate, at least in my mind, going forward, the price signal would . . . mimic the history."[55] He obviously had no access to information about the future when placing his trades; there was nothing in the history of these paths to suggest the results that occurred during the Polar Vortex; and there is no indication that he expected anything like the Polar Vortex (which occurred 4 years later, in the winter) to occur during the summer months of 2010. Based on the information available to him at the time, the prospects of such a strategy would have looked very different.

Staff's chart below illustrates the difference between supposed spread revenues from a "Home Run" strategy beginning in July 2005 shown through two different time periods: One, through August 31, 2014 (the time period Respondents arbitrarily use); the other, through August 3, 2010 (the end of Respondents' trading). The influence of the years subsequent to Respondents' trading—information not available to them at the time—is significant, and shows that they inflated their hypothetical potential spread revenues relative to the potential revenues that he could have deduced at the time.

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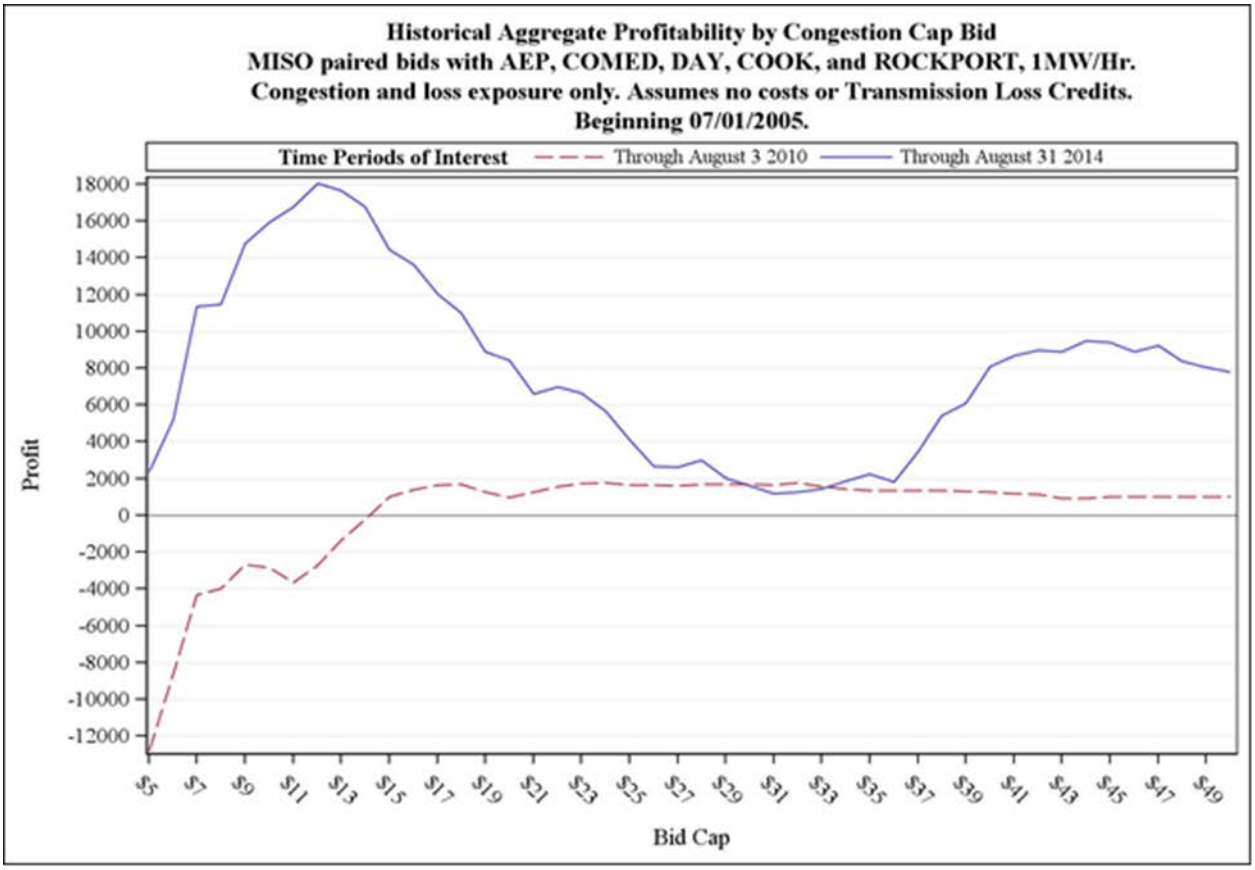
course, are without factoring in transaction costs, which would have rendered the trades big money-losers in the absence of any offsetting credits.

[55] Chen Test. Vol. I Tr. 75:2-3.



This chart, applying similar methodology employed by Chen in his Answer, compares results using the end date used in Chen's Answer (Aug. 31, 2014) with results using a more appropriate end date (Aug. 3, 2010, when Chen ceased trading). In other words, it compares Chen's results, which include future data that would not have been available to Chen as he developed his trading strategy, with results that use only data that would have been available to him at the time. It demonstrates that the "Home Run" strategy's revenues from price spreads would have been anemic, with returns per MWh ranging from -$0.29 to $0.04.[56] This is not a risk-adjusted result (before transaction costs) that either Chen or Gates would have found appealing.

[56] This range represents the historical aggregate profitability, independent of transaction costs and MLSA, of placing 1MW in every hour across all 41,616 hours between 7/1/2005 and 8/3/2010 at price caps between $5 and $50 on each of MISO-AEP, MISO-COMED, MISO-COOK, MISO-DAY and MISO-ROCKPORT.

These results are not surprising. In order to be profitable, the PJM nodes selected in connection with a "Home Run" strategy would need to show an export bias.[57] But the nodes that Chen actually used for his round-trip trading included nodes that he believed showed an *import* bias (meaning, in this case, they were good for prevailing flow), because this was the direction he bid his directional trades.[58] Chen's longstanding familiarity with their price patterns reinforced his security that they were particularly unlikely to exceed his bid prices.

Respondents try to buttress their claim that they did the opposite of what they actually did by claiming that if they had employed the Home Run strategy years later, during the Polar Vortex of 2013-14, they would have made money on spreads (before paying transaction costs).[59] But whether or not a very different trader, prepared to engage in extraordinarily high-risk gambles and to risk huge losses, would have made money with a Home Run strategy during that period is irrelevant because Powhatan and Chen were trying *not* to gamble in that way in the summer of 2010, but to do the opposite.

In any event, the Polar Vortex did not suddenly materialize one morning between 8:00am-noon (when UTC trades are entered into OASIS and EES) and 4:00pm (when traders find out where the Day-Ahead market settled and whether their bids cleared). Chen had to enter his UTC trades every day, and the tenor of those trades was limited to one day. In other words, Chen was trading only "under normal or less stressful market conditions (or when the market is in its comfort zone)" and would have had plenty of

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[57] *See* Affidavit of Craig Pirrong at ¶ 32, attached to Chen's Initial Submission.

[58] Chen Test. Vol. I Tr. 74:8 -9 (Chen identified a "pocket of nodes [that were the] best for importing"); Chen Test. Vol. II Tr. 108:9 – 109:10 (based on "exhaustive research" of the prior five years, Chen identified nodes, including COOK, that were always better for importing from MISO).

[59] *See* Chen Answer at 24-25.

forewarning about anomalous circumstances like the onset of the "Polar Vortex."[60] People saw the "Vortex" coming;[61] Chen would have seen similarly "stressful" conditions coming as well. And he would have been bound, per his agreement with Powhatan, to discuss it with Kevin Gates since it presented a risk—which Gates viewed as potentially disastrous—of breaking one leg of his round-trip trade pairs.[62]

In fact, the market conditions Chen faced were nothing at all like the dramatic swings and price spikes that occurred during the Polar Vortex more than three years later. That Respondents invoke such different circumstances as the Polar Vortex to try to explain their trading is yet another example of their unwillingness to defend their actual conduct. The manipulation case against Chen is based on the actual facts and circumstances that occurred at the time, based on the contemporaneous evidence about the market, the nature of the trades, and Respondents' statements discussing the intent behind them. It is telling that Respondents' defense rests on dramatic and unusual hypothetical scenarios that bear no relation to the actual facts at hand.

As discussed above, there is a more fundamental reason why the Commission should conclude that the mere fact that Respondents sometimes put in bids lower than $50 for their round-trip UTC trades is not evidence that they intended for the trade pair to "break." That is because the whole point of the A-to-B/B-to-A strategy was to prevent a recurrence of the situation that arose on May 30, 2010, when the legs of an A-to-B/B-to-C trade pair diverged that left Respondents with unexpected—and unwanted—losses.[63]

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[60] Chen Aff. ¶ 8 (emphasis omitted). In this respect, as noted in the Staff Report, UTCs differ from longer-tenored products such as FTRs. Staff Report at 56 & n.293.

[61] *See*, *e.g.*, National Oceanic and Atmospheric Agency (NOAA), "Wobbly polar vortex triggers extreme cold air outbreak," (Jan. l8, 2014) (available at http://www.climate.gov/news-features/event-tracker/wobbly-polar-vortex-triggers-extreme-cold-air-outbreak); and NOAA Prognostic Discussion for 6 to 10 and 8 to 14 Day Outlooks (Jan. 1, 2014) (available at http://www.cpc.ncep.noaa.gov/products/archives/short_range/2014/01/01/PMDMRD.20140101.txt.

[62] *See* Powhatan Dec. 17, 2010 Supplemental Response to Data Request #10.

[63] *See* Staff Report at 23-27.

To prevent such a recurrence, Chen structured his trades to eliminate exposure to price spreads altogether.

3. The Goal and Essence of Respondents' Trading Strategy Was Not a "Secret Sauce" That Chen Hid From Gates

Respondents try to explain away the lack of *any* contemporaneous evidence to support their invented "Home Run" theory by arguing that Chen said nothing about it to Gates because he was not obligated to share every detail about his trading strategies.[64]

There is no merit to this. It is certainly understandable that, as Gates testified, a trader in Chen's position might "not want to reveal that secret sauce [*i.e.*, how he modeled congestion] or about his trading," but that is why Gates "convinced him to sign a nondisclosure agreement with us and have some sort of obligation [to] tell us everything."[65] Since Gates and Chen had entered into a Non-Disclosure Agreement years earlier precisely to enable Chen to share commercially sensitive information and strategies, the *actual* theory behind Chen's round-trip trades was not a "secret sauce" at all, at least as to Gates.[66] During the summer of 2010, Gates already knew about the round-trip strategy and why Chen initiated it.[67] He also knew Chen was pursuing two UTC trading strategies—one was a directional "spread" strategy much like what other UTC traders did, and the other involved trying to drive the congestion spread to zero so he could isolate the bet to the difference between MLSA and transmission costs.[68] (Neither was the "Home Run" strategy.) Gates knew that the MLSA strategy involved

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[64] Powhatan Answer at 26 n.7; Chen Answer at 24 n.55, Chen Aff. ¶ 20.

[65] Testimony of Kevin Gates Vol. II (Sept. 7, 2011) (K. Gates Test. Vol. II) Tr. 188:22 – 189:22.

[66] K. Gates Test. Vol. II Tr. 189:14-15; and *see* POW00000074-76 (non-disclosure agreement executed Jul. 3, 2009).

[67] K. Gates Test. Vol. II Tr. 178:12-15.

[68] K. Gates Test. Vol. II Tr. 171:14-172:9; Powhatan Dec. 17, 2010 Supplemental Response to Data Request #10.

some risk of one leg of the pair breaking,[69] and that this could expose Powhatan to potentially very significant (and potentially costly) exposures to Real-Time congestion price swings.[70] And he knew that Chen was doing everything he could to avoid that, not *depending* on broken legs to generate large profits. So Gates already knew everything he needed to know about the trades.

Respondents' new theory—that Chen was secretly trying to get one leg to fail in hopes of winning (rather than losing) big—would require the Commission to believe that Gates— who testified that even the modest risk that a "leg" of one of their matched-pair trades might "break" was the sort of thing that "kept me up at night" and who saw that as a potential "worst-case scenario"—liked surprises. And it requires believing that Chen aimed to give him one—specifically, a surprise involving massive amounts of uncapped exposure to losses in times of system stress. Surprises, in fact, much like the one they had experienced on May 30, 2010, when they lost $176,000 because of a three-hour price spike.[71] As discussed above and in the Staff Report, Respondents' exposure to unexpectedly large spreads on May 30 was the whole impetus for Chen's switching the A-to-B/B-to-A strategy, so the suggestion that this sort of surprise was intended by either Chen or Gates is simply impossible to credit.[72]

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[69] Chen has previously claimed that, in informing Gates of the risks, he "implicitly" informed him of the upside potential. Chen Nov. 19, 2011 Response to Data Request #17(h-i).

[70] Chen Test. Vol. I Tr. 101: 3-7 ("I actually tried to emphasize that potential you could be making a lot of money, accumulating among 29 days you're making money. If one day happened one of the legs rejected, you could lose all the money you make."). Gates testified that even though they did not experience rejection of a leg on these trades, "had the relationship continued, this would still be a risk that "kept me up at night." K. Gates Test. Vol. I Tr. 82:23 – 83:24

[71] *See* Staff Report at 23, Powhatan Answer at 33.

[72] *See supra*, section II.A. and Staff Report at 23-29.

4. Chen's Alleged Views About Possible Outcomes of Uncleared Legs Are Irrelevant

Respondents complain that, in characterizing the "Home Run" theory as a "*post hoc* invention," Enforcement staff ignores Chen's testimony that he supposedly believed at the time (without doing any analysis, communicating his thoughts to his client, or writing anything down) that an uncleared leg would be more likely to result in profits than in losses.[73] They also point to their consultants who make the same claims, long after the fact. Respondents' complaint is misplaced.

Enforcement staff has never denied that exposure to price changes *could* either make or lose money; that is, after all, why the Commission permits financial traders to do arbitrage through UTC trades in the first place. Nor does it matter whether (as he now claims) Chen believed, without doing any actual analysis, that a hypothetical trader employing a Home Run strategy would, over time, be more likely to make rather than lose money.

Whether a hypothetical trader with a huge appetite for risk might want to seek out uncleared legs is irrelevant, because *that is not what Chen was doing*.[74] As documented in detail above, Chen was trying to *avoid* uncleared legs, not to generate them. Whatever Chen privately believed *might* happen if his trading strategy failed—that is, if a leg, despite his best efforts, failed to clear—does not constitute his actual strategy and therefore does not reflect his intent in placing the trades.

In Chen's testimony in 2010, he contrasted his strategy of placing round-trip trades at nodes that typically moved in the same direction as, and fluctuated with the LMPs at the MISO interface,[75] with something far different—in fact, with something resembling the "Home Run" strategy. Chen explained that he would only do that type of

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[73] Powhatan Answer at 25-27; Chen Answer at 21.

[74] Again, Chen actually testified in 2010 that this is not what he was doing. Chen Test. Vol. I Tr. 52:13 – 53:19.

[75] Chen Test. Vol. I. Tr. 78:21 – 79:4, 105:3 – 106:7.

trading for a very different type of client—a large company willing to take enormous risks:

A. …. [Y]ou still have the potential you could lose a lot of money. The flip side, you could make a lot of money. That's always a potential. But because I'm involved, the overall strategy is low risk, high potential, it's not like I'm trying to take on high risk, high reward.

If *the strategy is that, like I'm working for big company, I would intentionally pick those nodes spread apart in the day-ahead market. Say if I chose a node from MISO to Hackensack in New Jersey, very hot summer days, it's going to over $50.*

Q. What's going to be over $50?

A. In the day-ahead market. So day-ahead market price of Hackensack minus the day-ahead price of MISO could be $100 in the day-ahead market on the hot weather, cold winter days.

Q. Okay.

A. And without the import leg, the export leg, you don't have the guarantee.

Q. The export leg would be going from Hackensack to MISO?

A. To MISO.

Q. How would that price under the circumstances that you're talking about?

A. If this one is rejected, the import leg, [then on] the export leg, you receive that money, exactly the money you're asking for, over $50. So in day-ahead market, you get at least guaranteed $50 and over. So it's like – *if in the real-time market it* [the LMP] *turns out to be much higher in Hackensack, then you're losing a lot of money. If in the real-time market, like day-ahead and real-time are closer, you could make money. Those types of trades are what I call high risk, high reward.*[76]

In other words: Chen understood there was high reward (and risk) potential for trade pairs (like MISO and Hackensack) where there was a realistic chance of one leg of the pair breaking in very hot or very cold weather; he even indicated that he might consider doing such a trade—but only if he worked for a "big company"—because Chen considered that sort of trade to be "high risk, high

[76] Chen Test. Vol. I Tr. 52:13 – 53:19 (emphases supplied).

reward." And Chen had moments earlier testified that "I'm not taking a high-risk, high reward trade."[77] It is the exposure to potentially large price spreads that make the MISO-Hackensack strategy "high-risk, high-reward": those spreads can go in either direction between the Day Ahead and Real-Time markets. Put another way, the "risk" of the round-trip trade pair is triggered only if one of the legs is rejected, but if that happens, the risk is high. Respondents viewed their round-trip strategy as "low risk" only because the chances of that happening were negligible. Besides Chen's testimony that he intentionally selected nodes that he deemed unlikely to break, the fact that Chen was making these paired trades at all—on the paths, in the volumes, and at the bid levels he was placing them—demonstrates that he neither desired nor expected to wind up with any exposure to the large price spreads he would have been exposed to if any of his paired bids had been rejected.

Neither Chen nor anyone at Powhatan ever suggested in any contemporaneous document that the *purpose* of the round-trip A-to-B/B-to-A trading strategy was to seek exposure to price spreads on counterflow paths during periods of price spikes in the Day Ahead market in the hopes of capturing windfall profits. In fact, no one suggested this might have been their purpose until *after* Respondents hired outside consultants who developed this theory long after Chen placed the trades at issue here.[78]

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[77] Chen Test. Vol. I Tr. 51:7.

[78] The "Home Run" theory (not called that at the time) made its first appearance in the Affidavit of Craig Pirrong, attached to Chen's Initial Submission of Dec. 13, 2010. Pirrong, who based his opinions on "Chen's trading records" (Pirrong at ¶ 1) apparently without reviewing contemporaneous documents, claimed that the round-trip UTC trades were not wash trades because "[t]here were states of the world in which Mr. Chen could have faced exposure to price risk." *Id.* at ¶ 30. Pirrong went on to offer "another way of seeing this," which is to imagine the trades as "an option spread transaction." *Id.* at ¶ 31. Viewed through that lens, Pirrong characterizes Chen as "[i]n essence . . . speculating that, contingent on the MISO into PJM day ahead spread exceeding $50, the day ahead PJM into MISO spread was downward biased." *Id.* at ¶ 32. As discussed in the Staff Report and throughout this Reply, the evidence does not support the conclusion that Chen was engaging in the sort of speculation Pirrong attributes to him. Nor did Chen even claim this was his purpose in the Initial Submission: he merely claimed

The first time Chen himself said anything resembling an assertion that he was *trying* to get one leg not to clear, in hopes of hitting a "Home Run," was in a single mention late in his July 2011 testimony (nearly a *year* after this investigation had commenced, and nine months after he first testified). This brief statement directly contradicted his own repeated testimony earlier that same day, was inconsistent with testimony in October 2010, with his own submission in December 2010, and directly contrary to his pledge to Gates that he would do what he could to *avoid* uncleared legs.[79]

Simply put, the evidence demonstrates that Respondents viewed rejection of one of their paired bids as a dangerous risk to be avoided, not a valuable opportunity to be pursued. In fact, Chen "tried to do as much as [he] could" to minimize the risk that a leg would break. Ignoring all that, Chen and Powhatan now turn the facts upside down and say they were trying to do the opposite of what they actually did.

B. Respondents' Conduct Falls Squarely Within Commission Precedent on Manipulative Conduct

Respondents also try to distinguish their scheme from the circular scheduling and wash trading practices that the Commission has long prohibited. They are wrong.

1. Respondents Fail to Distinguish Their Trading from the Death Star Strategy that the Commission Has Condemned

Respondents argue that their scheme was different from the "Death Star" scheme that the Commission denounced more than ten years ago.[80] Principally, they argue that Death Star transactions were distinguishable from Respondent's round-trip UTC trades because they "involved trickery and deception," whereas Chen's trading "involved no

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(which staff has never denied) that the bids "created the possibility of reward" independent of MLSA. Chen Initial Submission at 8. But that possibility was foreclosed once the bids cleared, as they always did.

[79] *See* Staff Report at 42-47 and discussion at Section II.A.

[80] Chen Answer at 29-30; Powhatan Answer at 44-46.

deception whatsoever."[81] Respondents also contend that, unlike in Death Star, they "did not attempt to hide their transactions, strategy, or intent. They did not create false reports in conjunction with the trades in an attempt to mislead either PJM or FERC with respect to the transactions they undertook."[82] Finally, Respondents seem to suggest that the Death Star transactions were categorically different from Respondents' trades because they were physical as opposed to financial.[83]

Nothing in these arguments distinguishes Respondents' conduct from Circular Scheduling "Death Star" transactions in any meaningful sense.[84] Circular Scheduling or "Death Star" was a strategy designed to exploit a flaw in the CAISO market that allowed unscrupulous market participants to receive credits simply for scheduling offsetting trades. In this strategy, traders would make money by moving electricity in a circle from A to B, and B to A. The result of these schedules was no net position for the trader (and thus no possibility for profit or loss from market prices), and the strategy was profitable so long as the amount of credits received exceeded the cost of scheduling the transactions. Respondents' round-trip UTC trading strategy likewise "ma[de] money by moving electricity in a circle"—from A to B and B to A. The result of these trades was no net position (and thus no possibility for profit or loss from market prices), and the strategy was profitable so long as the amount of credits received exceeded the cost of scheduling the transactions.

Respondents thus cannot distinguish their trades from Death Star in any material way.[85] To begin with, there is no distinction to be made between a manipulative scheme

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[81] Powhatan Answer at 45; Chen Answer at 29.

[82] Powhatan Answer at 45 (quoting Spatt at ¶ 8); Chen Answer at 29.

[83] Chen Answer at 29.

[84] *See* Staff Report at 47-50 (discussing similarities between Respondents' round-trip UTC trading strategy and the Death Star strategy).

[85] Powhatan contends that "two of the twelve experts in this matter who think Dr. Chen's trading was legal were involved in FERC's investigation of the Western Energy Markets, David Hunger and Chester Spatt." Powhatan Answer at 44. But neither Hunger nor Spatt attempt to

involving schedules for physical power and a manipulative scheme involving virtual products such as UTCs, and Respondents do not cite—because they cannot—any authority to support this supposed distinction. Moreover, like the round trips at issue here, the Death Star strategy involved the submission of individual schedules that, when aggregated together, offset one another locationally and volumetrically. And, as with Respondents' scheme, the purpose of this was to claim credits that were available for one leg of the paired schedules. Like Respondents' MLSA strategy, Death Star schedules were not false *per se*, but taken together they created a nullity—a fact that was not apparent when viewing the schedules individually, as CAISO was doing. As CAISO explained:

> The actual circular nature of the combined import and export schedules awarded in the ISO markets is not apparent based only on review of the bids or self-schedules submitted in the ISO markets. Rather, it is necessary for the ISO to review the corresponding e-Tags to confirm that the entity procured external transmission and thus created a closed loop of energy.[86]

That is, the falsity of the Death Star scheme lay in the fact that the trades were presented as if they were legitimate trades, and thereby deceived the system operator into awarding credits as if they had been genuine trades. (Of course, Chen's trades were submitted not to a human being for individual review but to computerized market software that was simultaneously processing vast numbers of other transactions.)

Respondents' scheme closely resembles Death Star. As with Death Star, the circular nature of their round-trip trades would not have been apparent to PJM's market software based on the individual bids submitted in the PJM market; to be understood, matched trades by a single trader would need to be specifically screened for, and, at the

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distinguish Chen's round-trip trading from Death Star transactions. Nor is there any indication that either consultant reviewed the most important evidence (emails and testimony) showing why Chen did these trades; they certainly do not mention them.

[86] *Cal. Indep. Sys. Operator Corp.*, Docket No. ER13-449-000, Amendments to California ISO FERC Electric Tariff to Enable Settlement Rule for Schedules Sourcing and Sinking in the Same Balancing Authority Area at 2 (filed Nov. 21, 2012).

time, PJM had not implemented such a screen. Nor was this possibility immediately obvious to other market participants.[87] And like Death Star, Respondents' round-trip UTC strategy involved the submission of individual UTC trades that, together, offset one another locationally and volumetrically with the aim of claiming credits that were available for one leg of the paired schedules. Just as Respondents ran the risk that one leg of their round-trip UTC trades would "break," traders executing the Death Star strategy ran the risk that one of the schedules would be curtailed. Furthermore, Respondents' UTC trades were not false *per se*, but taken together, they created a nullity, which was not apparent when viewing the trades individually, as PJM's computers were doing. In important and fundamental ways, Respondents' UTC scheme resembles nothing so much as an updating of Death Star.

Moreover, contrary to their assertions, Respondents' scheme was deceitful.[88] They concede that Death Star trades involved "trickery and deception"—the schedules appeared to provide a benefit to the marketplace, *i.e.*, congestion relief, but were arranged so that the desired benefit would not be provided. But the same is true of Respondents' scheme: they submitted trades that appeared to provide a benefit to the market, *i.e.*, price convergence, but that were arranged so that the desired benefit would not be provided. In

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[87] Serge Picard (whom Respondents incorrectly portray as someone supporting them in this matter) testified that he learned it was possible to do offsetting UTC transactions to profit from MLSA only after investigating his firm's inability to obtain OASIS reservations, and discovering that CU Fund and Powhatan were reserving vast amounts of transmission back and forth between the same two points. Testimony of Serge Picard (Picard Test.) Tr. 84:19 – 88:9, 93:24 – 94:21 ("we could see the CU Fund Company doing 1,500 megawatts or 5,000 megawatts from somewhere to a zone, and from that zone back"), and *see* Picard Test. Tr. 92:11-13 ("Is somebody moving a state somewhere? Because that's the kind of power we're talking about."). Highlighting the difficulty of figuring out Respondents' scheme, Picard explained, "there is 4,000 OASIS that come up when you query it. You've got to go through every one of them. You could narrow it down through company. You have to know what you're looking at and we don't." Picard Test. Tr. 124:15-19. Picard's inquiry is discussed further below in Section II.F.2.

[88] Chen Answer at 15; Powhatan Answer at 7.

fact, by hoarding transmission and thereby crowding out bona fide UTC and Day-Ahead physical trades, they actively *prevented* others from providing such benefits.[89]

Respondents attempt to minimize the Commission's condemnation of Death Star, but their arguments fail.[90] Chen contends that, because the Commission found Death Star to be manipulative in "an order setting a case for hearing," the Commission's findings deserve less consideration because it would have "applied alleged legal norms that are far looser, and different, than the Commission's current anti-manipulation rule."[91] This is incorrect.

To begin with, a Commission determination is a Commission determination. With respect to the order defining Death Star and similarly abusive practices as manipulative, the Commission defined these practices in what has become known as the "Gaming Order."[92] On the same date, the Commission issued an order in a parallel proceeding directing Enron Power Marketing, Inc., and others to show cause why their market based rate authority should not be revoked for having engaged in such practices.[93] In answering the order to show cause, Enron did not dispute that it had engaged in the activities identified by the Commission as "gaming"—including Death Star—but contended instead that these practices "did not constitute gaming."[94] The Commission rejected this argument, finding that the Death Star practice, among others, constituted impermissible

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[89] *See infra*, section II.F.2.

[90] Chen Answer at 30 n.65.

[91] Chen Answer at 30 n.65.

[92] *American Elec. Power Service Corp., et al*., 103 FERC ¶ 61,345 (2003).

[93] *Enron Power Marketing, Inc. and Enron Energy Services, Inc*., 102 FERC ¶ 61,316 (2003), *see especially* PP 1, 6-9.

[94] *Enron Power Marketing, Inc. and Enron Energy Services, Inc*., 103 FERC ¶ 61,343, at P 51 (2003).

gaming.[95] The Commission affirmed its decision on rehearing, noting that "the Enron Entities engaged in a range of unreasonable practices (*e.g.*, gaming and wash trading)."[96]

In other words, while it is accurate to say that the Commission defined Circular Scheduling as a gaming practice in "an order setting a case for hearing,"[97] Respondents misleadingly suggest that this context is in some way material to the precedential significance of the Commission's decision. They are wrong. In point of fact, the Commission at least twice rejected direct challenges to its determination that Death Star or Circular Scheduling constituted impermissible gaming under the "Market Monitoring Information Protocols" (MMIPs) incorporated into CAISO's tariff.[98] As discussed in the Staff Report and elsewhere in this Reply, the MMIP's prohibitions against gaming and anomalous market behavior are Commission precedent: they were subsumed into Market Behavior Rule 2 and later into the Anti-Manipulation Rule.[99]

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[95] *Id.* PP 51, 53.

[96] *Enron Power Marketing, Inc. and Enron Energy Services, Inc.*, 106 FERC ¶ 61,024, at P 13 (2004).

[97] Chen Answer at 30 n.65.

[98] *See Enron Power Marketing, Inc. and Enron Energy Services, Inc.*, 103 FERC ¶ 61,343, at PP 51, 53 (2003), *order denying reh'g*, 106 FERC ¶ 61,024, at P 13 (2004). Moreover, as Chen acknowledges, the Commission has recently yet again affirmed that the MMIPs created enforceable "legal norms." Chen Answer at 30 n.65, *citing San Diego Gas & Elec. Co. v. Sellers of Energy and Ancillary Servs.*, Opinion No. 535, 149 FERC ¶ 61,116 (2014).

[99] Briefly, after adopting Market Behavior Rule 2, the Commission directed CAISO to remove (and by implication, other RTOs and ISOs not to adopt) the Gaming and Anomalous Market Behavior MMIPs, because such practices were now subject to direct enforcement by the Commission under Market Behavior Rule 2. *See Calif. Indep. Sys. Oper. Corp.*, 106 FERC ¶ 61,179, at P 100 (2004). In adopting 1c and revoking Market Behavior Rule 2, the Commission affirmed that conduct prohibited under Market Behavior Rule 2 – including, necessarily, gaming and anomalous market behavior – remained prohibited under 1c. See Staff Report at 47-57, *citing, inter alia, Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218 (2003) (Order Adopting Market Behavior Rules); *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 114 FERC ¶ 61,165, at P 24 (2006), *citing* Order No. 670, FERC Stats. & Regs. ¶ 31,202, at P 59 (2006) (rescinding Market Behavior Rule 2 but preserving its prohibitions in Rule 1c.).

Respondents also argue that in its 2009 *Loop Flow* Order, the Commission effectively reversed its condemnation of Death Star.[100] They are mistaken. In *Loop Flow*, market participants made spread trades: trades based on differences in prices at different locations.[101] Respondents did the opposite, trying to eliminate exposure to price differences to make money from the sheer volume of transactions that appeared to be spread trades but were not.

Despite Respondents' attempt to minimize the Commission's condemnation of Death Star and their argument that "traders who aggressively exploit loopholes do both the market and the rule makers a service by highlighting the inefficiency of the rules,"[102] there is no material distinction between their trading and strategies such as Death Star, which also exploited a "loophole" in the market by similar means and for similar purposes. By Respondents' logic, the Commission, the CAISO, the affected utilities, and their ratepayers ought to have been grateful to Enron and others for aggressively exploiting those loopholes. Of course, it is a matter of public record that they were not.

2. The Scheme Amounts To Wash Trading

Respondents disagree with Enforcement staff's use of the term "wash-like" to describe their round-trip UTC trades. Powhatan claims that the descriptor is unintelligible;[103] Chen claims that there can be no such thing as a "wash-like" trade because "wash trading is a binary state. There is no in-between."[104] In any event,

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[100] Chen Answer at 30; Powhatan Answer at 30-31.

[101] *New York Indep. Sys. Operator, Inc.*, 128 FERC ¶ 61,049, at 61,256 (2009), *order granting clarification*, 128 FERC ¶ 61,239, *order on compliance*, 132 FERC ¶ 61,031 (2010). In concluding that the *Loop Flow* market participants did not have the intent to manipulate, staff examined their beliefs and assumptions, and concluded, among other things, that "they had grounds to expect that the price signals they were receiving reflected an efficient market design." *Id*. at 61,260-62. Respondents, on the other hand, were *not* making their trades on the basis of LMPs but based on what they knew to be a market flaw.

[102] Powhatan Answer at 6.

[103] Powhatan Answer at 29-34.

[104] Chen Answer at 1, 18-19.

Respondents argue that their trades are "by definition" not wash trades. While they often suggest that their trades do not meet some precise and authoritative "definition" of wash trades, they fail to set forth or cite to such a definition.[105] But the Commission has defined wash trading in a way that prohibits Respondents' conduct, and that definition is consistent with those set forth, albeit in distinct regulatory environments, by other agencies.

a. The Commission's Definition of Wash Trading—Which Respondents Never Acknowledge, Much Less Distinguish—Was a Flexible and Pragmatic One

Respondents assert that the UTC trades they executed pursuant to their MLSA scheme do not satisfy what they claim to be the definition of wash trading. They do so by offering a highly technical definition of wash trading and by ignoring the Commission's longstanding precedent on the matter. They further claim that the mere existence of irreducible risk in UTC trading renders their round-trip trades legitimate. None of this is material to staff's entirely appropriate characterization of these trades.

Respondents ignore the fact that the Commission itself has defined and prohibited wash trading. The Commission did so by establishing tariff provisions that explicitly

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[105] *See* Chen Answer at 19 ("wash trades by definition do not make money"); Chen Answer at 1 ("Wash trades do not make or lose money. They are economically meaningless"); Powhatan Answer at 29 ("Manipulative wash trades are bad: they are trades that are designed to mislead other investors, make no money, take on no risk, cancel each other out and have no legitimate purpose."); Powhatan Answer at 32 ("The trades at issue here also were not wash trades because they entailed risk."); Powhatan Answer at 33 ("the trades did not cancel each other out (as wash trades would) because, among other reasons, many of the trades involved unmatched daily volumes"); Powhatan Answer at 38 ("Consistent with the concept of wash trading, Amanat conducted his trades in accounts at one broker-dealer . . . for the purpose of providing a subsequent benefit to another broker-dealer . . . from the artificial volume generated by his trades"); Chen Answer at 19 (if one leg of a round-trip UTC trade pair had failed to clear, it would have a left Respondents with congestion exposure, therefore the round-trip UTC trade pairs cannot be "wash" trades). *See also* Chen Answer, Exhibits B through M (statements by consultants purporting to characterize the characteristics of "wash trades" in contexts other than FERC).

prohibited wash trading as a *per se* violation, regardless of the trader's intent.[106] The Commission defined wash trading as involving "pre-arranged offsetting trades of the same product among the same parties which involve no economic risk and no net change of beneficial ownership."[107] When it established the explicit prohibition on wash trading, the Commission was clear that wash trading was merely a species of prohibited (even if not specifically defined) manipulative conduct, and that it would not be narrow, rigid, or formalistic in applying that concept when it came to defining market manipulation.[108]

When entities requested changes to the Commission's definition of "wash trading," the Commission reiterated this point. For example, when the National Association of Utility Consumer Advocates requested that "*de minimis*" values be encompassed within the definition, *i.e.*, *de minimis* risk or *de minimis* change of beneficial ownership, the Commission denied the request:

> [I]n the Commission's view, there is no need to modify its definition to include trades that involve *de minimis* values. While it is conceivable that a series of trades for *de minimis* amounts may be shown through evidence to constitute a scheme to manipulate the market, such action, *while not a violation of the Commission's prohibition on wash trades, would constitute a violation of the Commission's rules against market manipulation.*[109]

In other words, the Commission determined that conduct functionally equivalent to wash trading, even if it differed in some immaterial way so as to fall outside some precise

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[106] *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218, at P 58 (2003) (Order Adopting Market Behavior Rules); *Amendments to Blanket Sales Certificates*, Order No. 644, 105 FERC ¶ 61,217, at PP 46-57 (2003).

[107] Order Adopting Market Behavior Rules, 105 FERC ¶ 61,218 at P 35 and Appx. A.

[108] *See* Staff Report at 50-58.

[109] *In the Matter of Amendments to Blanket Sales Certificates*, 107 FERC ¶ 61,174, at P 47 (2004) (emphasis supplied). In that proceeding, the Commission amended blanket sales certificates for traders of natural gas by incorporating into those certificates the same language it had incorporated as Market Behavior Rule 2 into market-based rate tariffs on the electric side.

definition of "wash trading," *i.e.*, wash-like trading, would nonetheless "constitute a violation of the Commission's behavior rules against market manipulation."[110]

As discussed in the Staff Report, the Commission ultimately revoked the Market Behavior Rules as it moved away from a narrow, tariff-based enforcement regime and toward the broader anti-manipulation regime that Congress intended. In doing so, however, the Commission stated that conduct that had been prohibited under the Market Behavior Rules would remain prohibited under the new Anti-Manipulation Rule.[111] Thus, not only wash trades as originally defined by the Commission, but also their functional equivalents, *i.e.*, wash-like trades, were, and would remain, prohibited when the elements of the Anti-Manipulation rule were satisfied. This remains true today. The Commission should find that Respondents' round-trip strategy is so substantially analogous to wash trading that, like wash trading, it constitutes manipulative conduct and, therefore, was prohibited when Respondents pursued their strategy.

Respondents claim to find support from the Commission's *Idaho Wind* order, which Powhatan characterizes as having approved "offsetting energy transactions entered into for the sole purpose of accruing benefits associated with Renewable Energy Credits ('RECs'), which like TLCs are a credit revenue stream."[112] The *Idaho Wind* order is not helpful to Respondents. There, the Commission found that the petitioner had not engaged in market manipulation because it did what Powhatan and Chen considered—but rejected—doing: *asking* before entering into a transaction that, in Powhatan's case, they

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[110] *Id*. *See also* Market Behavior Rule 2, Order Adopting Market Behavior Rules at P 41 ("reject[ing] commenters' argument that Market Behavior Rule 2 should identify and prohibit only expressly-defined acts of manipulation. For all the reasons discussed above, it is essential and appropriate that we have a prohibition designed to prohibit all forms of manipulative conduct").

[111] *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 114 FERC ¶ 61,165, at P 24 (2006), citing Order No. 670, FERC Stats. & Regs. ¶ 31,202, at P 59 (2006).

[112] Powhatan Answer at 32, citing *Idaho Wind Partners I, LLC*, 134 FERC ¶ 61,217 (2011).

knew "nature should not allow."[113] The order explained that, "Idaho Wind has described its proposed transaction and requested our approval *prior* to its undertaking. *Making its intention to engage in this transaction publicly known and requesting Commission approval suggest that there is neither a fraudulent scheme nor scienter*."[114]

b. The Commission's View of Wash Trading is Perfectly Consistent with Other Agencies' Views on Wash Trading, Which Are Also Flexible

Respondents argue that the Staff Report's reliance on prohibitions of "wash trading" is inconsistent with the way "wash trading" has been defined in contexts outside of the Commission's jurisdiction. Put simply, they contend that the Commission must define wash trading in precisely the same manner as other government agencies. That is erroneous: not only does the Commission have the duty to interpret the law in a manner consistent with its statutory obligations but, contrary to Respondents' assertions, in fact the prohibitions on wash trading in the securities and commodities markets (and for that matter, in the tax context) support the Commission's interpretation and demonstrate why Chen's conduct is and should be prohibited.

Section 9 of the Securities Exchange Act of 1934[115] (whose prohibitions are incorporated into section 10(b)) describes wash sales as those entered into "for the purpose of creating a false or misleading appearance of active trading . . ." and which are

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[113] *See* Staff Report at 70 & n.362, quoting, *inter alia*, Testimony of Chao Chen (May 8, 2012) (Chao Chen Test.) Tr. 99:20-21.

[114] *Idaho Wind*, 134 FERC ¶ 61,217 at P 24 (emphasis supplied).

[115] Securities Exchange Act, section 9(a)(1), 15 U.S.C. § 78i(a)(1), provides descriptions of several common types of market manipulation, which are generally prohibited in Securities Exchange Act 10(b), prohibiting "any manipulative or deceptive device or contrivance" in connection with "the purchase or sale of any security." Though not referred to in the statute by the term "wash trading" the description of trades having "no change in beneficial ownership" is commonly referenced as the Exchange Act's prohibition on wash trading. *See, e.g.*, *SEC v. Masri*, 523 F.Supp.2d 361, 366 (S.D. N.Y. 2008) (discussing these provisions of the Securities Exchange Act).

accomplished by transactions "involving no change in [] beneficial ownership," or where an order for purchase or sale of a security is placed:

> with the knowledge that an order or orders of substantially the same size, at substantially the same time, and at substantially the same price, for the [offsetting sale or purchase] of any such security, has been or will be entered by the same or different parties.

Respondents' round-trip UTC trades are consistent with these characteristics.

The Commodity Exchange Act similarly prohibits "wash sales,"[116] a term that the Commodity Futures Trading Commission (CFTC) treats as synonymous with "wash trading." The official glossary of terms published by the CFTC defines "wash sales" as:

> Entering into, or purporting to enter into, transactions to give the appearance that the purchases and sales have been made, without incurring market risk or changing the trader's market position. The Commodity Exchange Act prohibits wash trading. Also called Round Trip Trading, Wash Sales.[117]

In *Wilson v. CFTC*, the 8th Circuit affirmed this definition in a case in which it upheld the imposition of civil penalties and suspension against a trader whose conduct was found to fit this description of wash sales:

> Wash sales involve the use of techniques designed to give the appearance of submitting trades to the open market, while negating the risk or price competition incident to the market. Wash trading produces a virtual financial nullity because the resulting net financial position is near or equal to zero.[118]

Respondents' trades are also consistent with this definition.

Thus, contrary to Respondents' contentions, the Commission is not alone in treating transactions that involve minimal or no risk or true financial position as unlawful

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[116] Commodities Exchange Act, Section 4c(a), 7 U.S.C. §6c.

[117] *See* CFTC Glossary, available at http://www.cftc.gov/consumerprotection/educationcenter/cftcglossary/index.htm. The CFTC Glossary is relied on by courts. *See, e.g., CFTC v. Hunter Wise Commodities, LLC*, 749 F.3d 967, 976 n.6 (11th Cir. 2014).

[118] *Wilson v. CFTC*, 322 F.3d 555, 559 (8th Cir. 2003).

"wash trading," notwithstanding the variation that this concept inevitably reflects in different regulatory contexts. First, Respondents' round-trip UTC trades were pre-arranged offsetting trades of the same product by the same parties—elements common to all definitions. That this is so can be seen from the following two illustrations. In the first (the most common case), Respondents have a perfectly offsetting position for the hour:

LOCALD	HOUR_ ENDING	TRANSACTION_TYPE	REQUESTED_OASIS_PRODUCT	SOURCE_PNODE	SINK_PNOD	DAM_SOURCE_TOTAL_LMP	RTM_SOURCE_TOTAL_LMP	DAM_SINK_TOTAL_LMP	RTM_SINK_TOTAL_LM	UPTO_CONG_MW
6/2/2010	10	IMPORT	NON_FIRM	MISO	COMED	37.650854	36.12	40.148077	36.484753	500
6/2/2010	10	EXPORT	NON_FIRM	COMED	MISO	40.148077	36.484753	37.650854	36.12	500

In the second, Respondents combine a round-trip pair with a regular directional UTC trade.

LOCALD	HOUR_ ENDING	TRANSACTION_TYPE	REQUESTED_OASIS_PRODUCT	SOURCE_PNODE	SINK_PNOD	DAM_SOURCE_TOTAL_LMP	RTM_SOURCE_TOTAL_LMP	DAM_SINK_TOTAL_LMP	RTM_SINK_TOTAL_LM	UPTO_CONG_MW
6/30/2010	10	IMPORT	NON_FIRM	MISO	COOK	30.474218	29.87	31.73	30.06	1000
6/30/2010	10	EXPORT	NON_FIRM	COOK	MISO	31.73	30.06	30.474218	29.87	1000
6/30/2010	10	IMPORT	NON_FIRM	MISO	COOK	30.474218	29.87	31.73	30.06	1000

This "unbalanced hour" example illustrates the falsity of Respondents' contentions that the trades at issue sought price exposure: it simply reflects an offsetting trade pair accompanied by a regular, non-offsetting UTC trade (for which civil penalties and disgorgement is not sought). This, in fact, is how Chen testified he viewed such trades: a trade pair combined with a trade seeking congestion exposure.[119] Moreover, while a substantial fraction of the hours at issue may have involved unmatched positions on a given path, *i.e.*, congestion exposure in one direction, such exposures constituted only about 5% of the MWh placed on the paths and hours under examination.[120]

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[119] Chen Test. Vol. I Tr. 49:7-10 ("Sometimes [A-to-B/B-to-A] trades exactly the same amount and sometimes one leg is a little bit more, so I do intend to add a little bit risk just for that leg alone. But I still look at those as kind of a paired trades.").

[120] Chen's Answer erroneously asserts that there are "five categories of 'paired' trades at issue." Chen Answer at 16. In fact, there is one: paired volumes in opposite directions in the same hour, as described in great detail in the Staff Report. He contends that his A-to-B and B-to-A positions must be "aggregated on a daily basis," because "the real exposure to congestion occurs on a daily basis, and thus can be accurately viewed only on a daily aggregate basis." Chen Answer at 18 n.41. Speaking of "aggregate daily" UTC positions makes no sense, because UTC trades settle on an *hourly* basis, not on a daily basis. On Chen's theory, he could execute

Second, each definition requires that there be "no change in beneficial ownership" or that the trades are done "without changing the trader's market position." That is true here. By clearing offsetting UTC bids in equal and opposite directions between the same two nodes (and involving the same counterparty, namely PJM), Respondents were left with no net change in their market position and no meaningful market exposure.

The Securities Exchange Act and the Commodities Exchange Act both prohibit wash trading because it creates inaccurate signals about the amount of economic activity surrounding a particular stock or option and distorts the market. Congress specifically tailored each of those statutes to the nature of the markets being regulated, and that applies to the anti-manipulation provisions of EPAct 2005 as well. For instance, while the Securities Exchange Act technically requires that wash trades have the purpose of "creating false or misleading appearance of active trading," that requirement is appropriate for a regulatory scheme that is focused on ensuring accurate information in the marketplace, so that persons intent on fraud cannot move market prices by creating that false appearance.

Yet that definition is not inconsistent with the anti-manipulation provision that the Commission is charged with administering. In the first place, wash trading schemes such as Respondents' are intended to create a false appearance of actual market activity in order to obtain an extrinsic or collateral benefit. In the case of the securities markets, that means creating the false appearance of market activity to entice market participants into making purchases or sales of the security. In the case of the power markets, that arises in several different ways. One way involves making trades to be reported to price index publishers in order to affect index prices in a way that benefits the wash traders' related positions. Such "related position frauds" are a common scheme that the Commission has encountered numerous times. Another way is to portray wash trades as legitimate in

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matched 1000 MW trades in opposite directions 23 hours of the day and, as long as the 24th hour had 1000 MW matched with 999 MW, he would not have engaged in offsetting trades because his "daily aggregate" position would not offset. This suggestion is untenable.

order to secure related benefits from the market under false pretenses. That is what happened here: Respondents submitted their wash trades to PJM with the hope and intention of securing related benefits under false pretenses.

Respondents' sham trades harmed the markets in other ways too. Because of the uniquely regulated nature of electricity markets, the Commission's "just and reasonable rates" mandate means that the prohibition on wash trading protects the market in an analogous but slightly different way, namely, by obligating the Commission to penalize manipulative transactions that tend to undermine its ability to carry out that mandate. Respondents' trades undermined the Commission's ability to carry out its statutory mandate because their trades interfered with one of the mechanisms—financial arbitrage— that the Commission has repeatedly recognized as helping to achieve just and reasonable rates. As discussed in the Staff Report and elsewhere in this Reply, Chen's round-trip trades were not arbitrage because he intentionally designed and placed them to eliminate as much as possible the risk of price movements from the Day-Ahead to the Real-Time, rather than to profit from them. And in his admitted (and persistent) effort to negate that risk, he hoarded transmission, thereby preventing legitimate arbitrageurs from reserving the transmission they needed to place legitimate UTCs[121] and deprived both arbitrageurs and companies that provide energy to the consuming public of the larger share of the MLSA that— but for Respondents' enormous trade volume—they would have received. Thus, while the object of this deception (PJM and its stakeholders) is somewhat different from the object for traditional securities fraud (the investing public), and the precise consequences somewhat different as well, the principle is the same: market participants may not design and place trades designed to leave the trader with no net position in the market while nonetheless extracting a reward from the market. That is precisely what Respondents did.

[121] *See* sections II.F.2, IV.A. and V.A. *infra*.

c. Completely Negating *All* Risk Is Not Essential to Wash Trading

Respondents contend, however, that their round-trip UTCs were not wash trades under any definition because, despite his efforts, it was simply not possible for Chen to negate all risk. Specifically, they claim that their round-trip UTCs cannot be considered wash trades because they bore two risks that, despite Chen's efforts to remove them, could not be completely eliminated: first, the risk that one of the paired trades (the importing or prevailing flow leg) would be rejected, thereby leaving him exposed to price risk,[122] and, second, the risk that even if both trades cleared, the trades would turn out to be unprofitable because the per-MWh MLSA would not exceed the per-MWh transaction costs. [123] Respondents argue that their trades are not wash trades because they were not undertaken, as the CFTC definition requires, "without incurring market risk." They assert that the bid caps imposed by PJM in the UTC market mean that, as a technical matter, Chen's UTC trading strategy was not absolutely risk-free.[124]

They are wrong. First, the mere existence of irreducible risk inherent in a trade does not dispose of the question of wash trading; consistent with its statutory obligations, the Commission has to examine the fundamentals of transactions, and not focus on merely trivial distinctions, to make that determination. Moreover, this argument proves

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[122] This would have left Chen with a massive bet on directional export or counterflow exposure, of which he had previously told Gates, "I'd not bet anything big for counter-flow positions: never, period. No matter how enticing some of the quite-looking [*sic*] days, to me the counter-flow position is the only way to bankruptcy." Email from Alan Chen to Kevin Gates, POW0001553 (Jul. 22, 2008, 2:00 PM).

[123] *See* Powhatan Answer at 32-33; Exhibit H to Chen Answer, Affidavit of Stewart Mayhew ¶ 119 (Mayhew).

[124] Of course, literally "zero" risk is not required for conduct to constitute "wash trading." *See* Staff Report at 54-55; *see also Wilson v. CFTC*, 322 F.3d at 559 ("Wash trading produces a *virtual* financial nullity because the resulting net financial position is *near or* equal to zero") (emphasis added).

too much: if accepted, it would mean that UTCs could never be used in wash trading even if they were executed for a wash purpose and achieved a wash result.[125]

Respondents refer to an email, quoted in the Staff Report, from Chen to Gates, written a week and a half after Chen began implementing the round-trip UTC strategy.[126] The email states that "we increased volumes but decreased risk. If we rate the risk on 5/30 at 1.0, we now have probably 0.5"[127] In their Answers, Respondents try to explain this away:

> The Staff points to this quote as supposed evidence that the trades involved no risk—that the Respondents and their experts are just making it all up that the trades involved risk. But Dr. Chen had lost over $176,000 on May 30, 2010. *See id*. at 23. If he then shifted his strategy to cut the risk in half, the trades obviously still involved meaningful risk. How else can that statement be interpreted? The fact that the Staff would think that this quote helps to show that there were no risks to the trading is a complete head—scratcher.[128]

Respondents either miss or are attempting to obscure the point.

On May 30, 2010, Respondents did no round-trip, A-to-B/B-to-A trades. By June 10, 2010, when Chen sent the email to Kevin Gates explaining that his risk had been reduced by half, over 50% of his trades were round-trips. Meanwhile, Respondents' non-round-trip UTC volumes—which, of course, created spread risk—were only about half what they had been on May 30.[129] So when Chen wrote his email, he meant that he had greatly reduced his risk profile by *replacing trades exposed to actual spreads* (which could make or lose money based on price changes) *with round trip trades designed to*

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[125] Staff Report at 54-55.

[126] Powhatan Answer at 33, citing Staff Report at 45.

[127] Email from Alan Chen to Kevin Gates (Jun. 10, 2010, 5:28 PM) (POW00004837).

[128] Powhatan Answer at 33; *see also* Chen Answer at 5 and Chen Aff. ¶ 11.

[129] On May 31, Powhatan scheduled 230,238 MWh of non-round trip UTCs and 0 MWh of round trip UTCs. On June 10, Powhatan had decreased their non-round trip volumes by 60% to 91,160 MWh. On that day, Powhatan also did 115,200 MWh of round trip trades. Proximate days show a similar pattern.

have virtually no risk. Respondents' claim that the June 10 email "shows that [Chen] contemporaneously thought that the move to the A to B-B to A trades had cut his exposure to congestion in half (but had not eliminated it), compared to the prior A to B-B to C trades" is incorrect.[130] Chen reduced volumes of his non-round-trip trades by approximately half from May 30 to June 10, while at the same time increasing those volumes in round-trip trades: that is how he reduced risk in half while increasing volumes.

d. The *Kellogg* Case Does Not Aid Respondents

Respondents rely heavily[131] on a case in which the (former) National Association of Securities Dealers (NASD), a self-regulatory organization (SRO), declined to discipline investor Peter Kellogg for engaging in a complicated series of transactions, including wash and matched trades, designed to take advantage of the expiring tax-exempt status of his Bermuda-based insurance company.[132] We agree with Respondents that "[t]he facts in *Kellogg* are worth a closer look."[133] But, contrary to what Respondents argue, the *Kellogg* case is inapplicable and distinguishable, and has since been undermined by Internal Revenue Service, which, because it did not view the trades as benign, retroactively required Kellogg to pay back the money he sheltered.

In *Kellogg*, NASD's analysis turned on its finding that Kellogg's wash trading did not have the purpose or effect of distorting the marketplace. By contrast, Chen did round-trip trades with no economic substance that crowded other traders out of the market for transmission and diminished MLSA payments made to other market participants.

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[130] Chen Answer at 5.

[131] Powhatan Answer at 40-44.

[132] *Department of Market Regulation v. Respondent*, 2005 WL 6792283, at *2 (N.A.S.D.R. No. 2004).

[133] Powhatan Answer at 41.

Moreover, decisions by an SRO do not define the Commission's statutory authority, and they certainly do not limit the Commission's ability to flexibly apply its own Anti-Manipulation Rule in the different context of energy markets. And even in the securities context, *Kellogg* is of very limited precedential value. *Kellogg* is not a decision of the Securities and Exchange Commission (SEC) or of any court, but only a decision of a hearing board of an SRO.[134]

Finally, Powhatan neglects to inform the Commission that while the panel that decided *Kellogg* thought his transactions were done for legitimate tax avoidance purposes, the IRS apparently did not agree: it later ordered Kellogg to pay back the same taxes he avoided by sheltering money through his company.[135]

C. The Prohibition On Gaming Tariff Rules is One Of The Commission's Most Fundamental Anti-Manipulation Principles

Although they do not put it in so many words, Respondents, in effect, argue that it is legal to game market rules in power trading. The Commission has held otherwise numerous times, and it should do so again here.

1. Respondents Ignore Commission Precedent Demonstrating that 1c Can Be Violated Even Where There is No Tariff Violation

At the core of Respondents' answers is the contention that Chen's conduct could not have been prohibited because he was merely exploiting a loophole. Powhatan writes, "So what? One can never be guilty of market manipulation simply by taking advantage

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[134] By contrast, *Amanat*, which is directly analogous and discussed in the Staff Report (at 73) is an SEC decision that was affirmed by a federal appeals court. *In re Amanat*, 89 S.E.C., Docket 672, 2006 WL 3199181, at *1-7 (Nov. 3, 2006), *aff'd mem. sub nom. Amanat v. SEC*, 269 Fed. App'x 217 (3d Cir. 2008). Ironically, while Powhatan urges the Commission to rely on an unreviewed NASD decision (*Kellogg*), it disparages *Amanat*, a decision of the SEC affirmed by a federal court, as "unpublished and nonprecedential." Powhatan Answer at 34.

[135] *See* Amended Answer, IAT v. US, Docket No. 13-282 (Ct. Cl. Dec. 13, 2013), ECF 29. (refund lawsuit); *Billionaire, Bermuda reinsurer seek $186m IRS refund amid "politically charged atmosphere,"* Royal Gazette, June 19, 2013, *available at* http://www.royalgazette.com/article/20130619/BUSINESS02/706199958.

of a flawed market design, or a 'loophole.'"[136] Respondents claim that even if the round-trip UTC trades had no purpose at all other than to collect MLSA that would otherwise go to market participants doing real transactions, "there would be nothing wrong with the trading at all."[137] "As long as the trader follows the existing rules," they claim, "he or she can exploit the loophole in the most aggressive—indeed the most spectacular—fashion imaginable and not run afoul of the law."[138]

Powhatan tries to wish away the bedrock principles of the Commission's longstanding anti-manipulation precedent. Properly viewed, and well before passage of EPAct (and certainly after), the Commission's anti-manipulation authority serves to backstop and augment the rules set forth in the tariffs it oversees—precisely for the purpose of preventing market participants from, *e.g.*, "taking unfair advantage" of or manipulating "market rules."[139] Respondents' discussion of exploiting loopholes fundamentally misconstrues the relationship between market rules (such as tariff rules) and the Commission's anti-manipulation authority, and ignores the ample precedent arising from it.[140] This is fatal to their position.

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[136] Powhatan Answer at 4; *see also* Chen Answer at 34 ("exploiting a loophole *is not illegal*.") (emphasis in original).

[137] Powhatan Answer at 27.

[138] Powhatan Answer at 7.

[139] *See* Staff Report at 49 & n.268 (quoting *American Electric Power Service Corporation, et al*., 103 FERC ¶ 61,345, at P 17 (2003)) and 51 (quoting Market Behavior Rule 2); *see also Cal. Indep. Sys. Operator Corp.*, 106 FERC ¶ 61,179, at P 114 (2004) ("Many of the Enron trading strategies took advantage of poorly constructed rules."). As discussed in the Staff Report, in the pre-EPAct context, the Commission performed this role either by enforcing general market conduct provisions, such as CAISO's MMIPs, or by requiring all entities with market based rate authority to include such provisions in their tariffs.

[140] *In re Make-Whole Payments and Related Bidding Strategies*, 144 FERC ¶ 61,068, at P 83 & n.8 (2013) (*JP Morgan*); *see also* Staff Report at 47 – 57; *and see* n.142 below. In light of the Commission's statements, it is difficult to understand Powhatan's contention that "[t]here is no authority *anywhere* that contradicts" (Powhatan Answer at 7) (emphasis in original) its position that the exploitation of market rules is not actionable under the Anti-Manipulation Rule.

The Commission recently explained:

> *Market manipulation under the Commission's Rule 1c is not limited to tariff violations*. That Rule 1c is not so limited is by design. In the wake of Enron's schemes in the CAISO market, the Energy Policy Act of 2005 gave the Commission "broad authority to prohibit manipulation" and an "intentionally broad proscription against all kinds of deception, manipulation, deceit, and fraud." Both the breadth of Congress' authorization to the Commission and the breadth of the Anti-Manipulation Rule itself are a response to what courts have long recognized: the impossibility of foreseeing the "myriad means" of misconduct in which market participants may engage. For that reason, as the Commission observed in 2006, "[N]o list of prohibited activities could be all-inclusive." Instead, as Order No. 670 emphasizes, fraud is a question of fact to be determined by all the circumstances of a case, not by a mechanical rule limiting manipulation to tariff violations.[141]

The Commission's well-established position is straightforward:

> An entity need not violate a tariff, rule or regulation to commit fraud. Nor does a finding of fraud require advance notice specifically prohibiting the conduct concerned. Fraud is a matter of fact and requires evaluation of all the facts and circumstances of each case. The Commission need not imagine and specifically proscribe in advance every example of fraudulent behavior.[142]

The Commission need not decide whether, in different areas of the law and different contexts, it is permissible to exploit what may be characterized as "loopholes."[143] It is a violation of *this* agency's Anti-Manipulation Rule to place what falsely appear to be spread trades to collect money that would otherwise go to other market participants doing real trades.

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[141] *JP Morgan*, 144 FERC ¶ 61,068 at P 83 (citations omitted).

[142] *Competitive Energy Services, LLC*, 144 FERC ¶ 61,163, at P 50 (2013) (citations omitted); *Richard Silkman*, 144 FERC ¶ 61,164, at P 50 (2013); *Lincoln Paper and Tissue, LLC*, 144 FERC ¶ 61,162, at P 36 (2013).

[143] Powhatan Ans. at 3-6 (citing *Macon Cnty. Ill. v. Merscorp*, 742 F.3d 711, 714 (7th Cir. 2014) and *Buffalo S. R.R. Inc. v. Vill. of Croton-on Hudson*, 434 F. Supp. 2d 241, 254 (S.D.N.Y. 2006)). Respondents do not explain why Enron's exploitation of tariff "loopholes" would not equally be lawful under their theory.

Respondents' invocation of what they call the "Safe Harbor" rule is unavailing.[144] The "Safe Harbor" applies to two circumstances: (1) where a specific action has been undertaken at the behest of the RTO or ISO, and (2) where the tariff explicitly authorizes certain activities.[145] These circumstances are not present here. Respondents did not undertake their scheme at PJM's behest, and while PJM's tariff authorized trading in UTCs, it did not authorize Respondents' round-trip trading scheme.

The fact that a market participant trades in UTCs or some other virtual product "explicitly contemplated in Commission-approved rules and regulations," means that the Commission will not presume, on the mere basis of that trading, that the market participant is engaged in manipulative conduct.[146] That is what happened here: the Commission has never presumed that UTC trading is manipulative as such, nor has it ever presumed that an entity engaged in UTC trading is, by virtue of trading UTCs, engaged in manipulation. Nor, as Respondents misleadingly suggest, has the Commission or Enforcement staff ever suggested that merely collecting MLSA for UTC trades, or trading UTCs in the knowledge that they will receive MLSA, is unlawful.[147] This is another straw man. The presumption of legality that attaches to certain conduct

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[144] Powhatan Answer at 11 (quoting Order No. 670 at P 67).

[145] As for the second concern, Order No. 670 simply preserved the existing "safe harbor" presumptions of Market Behavior Rule #2, which were adopted in direct response to the concern expressed by some commenters that the proposed Market Behavior Rule #2 could be construed as barring market participants from engaging in virtual trading altogether. *See, e.g.*, Initial Comments of the Edison Electric Institute and the Alliance of Energy Suppliers, Docket Nos. EL01-118-000, et al., at 13-14 (filed Aug. 18, 2003) (speculating that "the industry may perceive that virtual trading and similar activities, now widely viewed as legitimate trading activities, are prohibited").

[146] Respondents distort the meaning of "explicitly contemplated." The tariff rule itself did not "explicitly contemplate" Respondents' round-trip UTC trading strategy, and to the extent that the Commission "contemplated" (in a different sense of that word) such conduct, it expressed its disapproval of it. *See* Staff Report at 59-66. The Commission did not "contemplate" approval of any high-volume MLSA capture strategy, nor did any party .urge that it would be a good idea to do so.

[147] *See* Chen Answer at 19 ("At bottom, Enforcement's wash trade assertion boils down to an assumption that it somehow is improper to trade in ways that earn transmission loss credits.")

under the "safe harbor" rule has no bearing here, and, in any case, cannot immunize conduct that, considering all the facts and circumstances, is proven to have been manipulative.

2. The Anti-Manipulation Rule Prohibits Gaming

Contrary to Respondents' position, the Anti-Manipulation Rule prohibits gaming market rules. The fact that a tariff provision does not specifically identify and prohibit particular gaming practices does not give traders *carte blanche* to engage in any conduct they might desire. Far from it: under the Commission's well-known processes, ISOs and RTOs implement tariff provisions to prohibit and neutralize the economic incentives to engage in manipulative practices that can be identified and defined with precision. But when novel practices come to light that do not fit into those explicit prohibitions, ISOs and RTOs are directed to refer them to this Commission for enforcement action while at the same time making prospective rule changes to discourage or prevent such novel manipulations from occurring in the future.[148]

As an example, Death Star trading involved making money by sending electricity in a circle (an A-to-B trade paired with a B-to-A trade) and then collecting credits in excess of transaction costs.[149] The Commission determined that this practice was unlawful because it violated two provisions of CAISO's MMIPs, neither of which explicitly prohibited Circular Scheduling. CAISO then amended its tariff to bar the Circular Scheduling practice explicitly. The Commission accepted CAISO's proposed revision of its tariff to explicitly prohibit Circular Scheduling.[150] In 2012, CAISO sought to amend its tariff once again, "to implement settlement rules to neutralize the revenue

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[148] *Policy Statement on Market Monitoring Units, Market Monitoring Units in Regional Transmission Organizations and Independent System Operators*, 70 Fed. Reg. ¶ 32,247 (Jun. 17, 2005)

[149] The transactions at issue in this proceeding also involve "mak[ing] money by moving electricity around in a circle" via A-to-B trades paired with B-to-A trades for purposes of collecting credits in excess of transaction costs. *See* Staff Report at 50 & n.270.

[150] *Cal. Indep. Sys. Operator Corp.*, 106 FERC ¶ 61,179, at P 142 (2004).

derived from intertie circular scheduling practices that are already prohibited under the ISO tariff."[151] In its filing, CAISO recognized that it "cannot capture every form of manipulative practice that may be associated with the various forms and permutations of circular schedules," but that it was seeking to address one "specific set of circular schedules submitted to the ISO that will be subject to the new settlement rules."[152] CAISO reiterated that "there may be other circular scheduling activity not covered by the rules proposed in the instant filing that potentially could be manipulative"; and noted that "[t]hese types of issues will continue to be addressed . . . through referrals to the Commission's Office of Enforcement" in addition to "prospective rule changes."[153] In short, the process by which tariffs are amended to prospectively change behavior is related to, but does not limit, the Commission's authority to investigate and penalize manipulative conduct that is not explicitly barred by tariff rules.

That is what occurred here. When PJM discovered the manipulative high-volume MLSA capture strategies employed by Respondents and others in the summer of 2010, PJM referred the matter to the Commission for enforcement, while also undertaking efforts to change its tariff to negate the economic incentive to engage in the manipulative strategies.[154] The same thing happened with the many gaming strategies employed by JP Morgan, which were subject to a 2013 Commission-approved settlement.[155] As these and

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[151] Amendments to California ISO FERC Electric Tariff to Enable Settlement Rule for Schedules Sourcing and Sinking in the Same Balancing Authority Area, *Cal. Indep. Sys. Operator Corp.*, Docket No. ER13-449-000, at 1 (filed Nov. 21, 2012).

[152] *Id.* at 6.

[153] *Id.* at 6-7.

[154] *See* Office of Enforcement Staff Jan. 28, 2015 Answer in Opposition to Expedited Motion for 14-Day Extension of Time at 5-6 & Att. A.

[155] *See In re Make-Whole Payments and Related Bidding Strategies*, 144 FERC ¶ 61,068 (2013) (order approving settlement); *Cal. Indep. Sys. Operator Corp.*, 136 FERC ¶ 61,118 (2011) (granting CAISO tariff filing); *Midwest Indep. Transmission Sys. Operator, Inc.*, 136 FERC ¶ 61,025 (2011) (granting MISO tariff filing); Unpublished letter order, *Cal. Indep. Sys. Operator Corp.*, Docket Nos. ER11-3510-000 and ER11-3510-001 (issued May 27, 2011)

other examples show, Commission enforcement authority and tariff rules are neither mutually exclusive nor exactly coextensive; they are mutually reinforcing.

D. Respondents' Conduct Was Deceptive

In various ways, Respondents attempt to reduce fraud to its grosser forms: lying or failure to disclose when there is an obligation to do so, and then to limit the definition of manipulation to those forms of fraud. Powhatan argues that the round-trip trades Chen placed on its behalf were not manipulative because Chen "accurately entered the information necessary to conduct the trades, which were carried out openly. He did not attempt to hide, conceal, or misrepresent anything to PJM or to the market participants. He did not make false or misleading representations."[156] Chen, for his part, attacks the Commission's very definition of fraud.[157]

Respondents once again miss the point. While Chen may have given accurate information to PJM's computers, his act of entering the information was deceptive. Chen knew full-well the purpose of financial trades in the energy markets—he provided a fulsome and considered description of that purpose.[158] And while he knew that "price convergence" and "market efficiency" were among the goals, he also knew that the round-trip, identical-volume trades he was entering could not possibly contribute to achieving either. Despite his claim that, "[i]f you don't provide any value to the system, you actually are losing money,"[159] he knew that he was profiting by intentionally collecting large sums of MLSA through a scheme that provided *no* value, let alone the value the market and the Commission reasonably expected that he was trying to provide.

(granting CAISO tariff filing under delegated authority); *Cal. Indep. Sys. Operator Corp.*, 135 FERC ¶ 61,110 (2011) (granting CAISO tariff filing).

[156] Powhatan Answer at 7

[157] Chen Answer at 10, 36-37. Chen's reasoning seems to be that the Commission's definition of fraud must necessarily be confined to lying because the case cited in a footnote to that definition involved people who lied.

[158] Chen Test. Vol. I Tr. 31:11-21, 32:10 – 33:1, 113:21 – 119:8; *and see infra*, section II.F.3.

[159] Chen Test. Vol. I Tr. 118:4-5.

The way in which Respondents' conduct was deceptive is simple: when someone trades a spread product, they thereby inform the market that they are trading a spread. Here, the spread product was UTC, which is a product designed to allow market participants to trade the spread between the Day-Ahead and Real-Time prices along certain paths. Chen did the opposite. He traded to *negate* the spread along the paths he traded.[160] His purpose, which Gates clearly understood, was to reduce the price spreads on those paths to $0 and to capture MLSA.[161]

It is well established that conduct itself can be impliedly deceptive.[162] Respondents' conduct was indeed deceptive. They entered trades that individually appear unremarkable, but, taken together, subverted the purpose and premise of the marketplace. The net result of all this was that they impaired other market participants' bona fide trading, thereby obstructing the convergence benefits that may have followed from bona fide arbitrage, and they defeated the proper allocation of MLSA.[163]

E. The "Independent Experts" Are Neither Independent Nor Credible.

Respondents complain that Enforcement staff has "never given any meaningful consideration to the numerous arguments advanced by . . . the *twelve* independent experts who think that Powhatan and Dr. Chen have done nothing wrong."[164] They are mistaken. Staff has carefully reviewed the statements submitted by those consultants (who, having been retained by Respondents, cannot be regarded as "independent").

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[160] *See* Chen Test. Vol. II Tr. 40:24 – 41:2.

[161] *See* Staff Report at 75-77.

[162] *See JP Morgan* 144 FERC ¶ 61,068 at P 84 ("Conduct, as opposed to a specific false oral or written statement, is sufficient to establish a violation of Rule 1c"); *and see Barclays Bank PLC et al.*, 144 FERC ¶ 61,041, at PP 50-58 (2013) (rejecting arguments to the contrary).

[163] See *infra*, section V.A.

[164] Powhatan Answer at 2 (emphasis in original); *see* Chen Answer at 32.

Many of these twelve statements are not submitted under oath.[165] Many of the consultants have no expertise in the wholesale energy markets regulated by this Commission.[166] Many assert or purport to characterize facts about which they have no first-hand knowledge and, at the time they prepared their reports, appear not to have reviewed the relevant record evidence.[167] Most offer opinions about questions of law,[168] policy,[169] or the Respondents' state of mind,[170] all of which are within the Commission's sole purview.[171]

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[165] Statement of Susan J. Court (Chen Ans. Ex. B) (Court); Report of Jeffrey H. Harris (Chen Ans. Ex. C) (J. Harris); Statement of Larry Harris (Chen Ans. Ex. D) (L. Harris); Statement of Professor Terrence Hendershott (Chen Ans. Ex. E) (Hendershot); William W. Hogan, *Electricity Market Design Flaws and Market Manipulation*, February 3, 2014 (Chen Ans. Ex. F) (Hogan); Statement of David Hunger (Hunger) (Chen Ans. Ex. G); Comments of Roy J. Shanker (Shanker) (Chen Ans. Ex. J); Report of Chester S. Spatt (Spatt) (Chen Ans. Ex. K).

[166] J. Harris, Chen Ans. Ex. C ; L. Harris, Chen Ans. Ex. D; Hendershott, Chen Ans. Ex. E ; Affidavit of Stewart Mayhew (Chen Ans. Ex. H) (Mayhew); Affidavit of Richard G. Wallace (Chen Ans. Ex. M) (Wallace).

[167] Court; L. Harris; Hunger; Hogan. None of Respondents' consultants indicate that they reviewed contemporaneous email correspondence between Chen and Gates.

[168] Court; J. Harris; L. Harris; Mayhew; Shanker; Spatt.

[169] Court; Hendershott; Hunger; Hogan.

[170] Court; J. Harris; L. Harris; Hunger; Mayhew; Shanker; Spatt.

[171] Although the Federal Rules of Evidence do not apply here, it is worth noting that, under those rules, it is well established that expert witnesses may not testify to legal conclusions. *See, e.g.*, *West v. Wash. Metro. Area Trans. Auth.*, 78 F.3d 682, 684 n.4 (D.C. Cir.) ("An expert witness may not deliver legal conclusions on domestic law, for legal principles are outside the witness's area of expertise under Federal Rule of Evidence 702."), *opinion amended on other grounds on reh'g*, 86 F.3d 216 (D.C. Cir. 1996); *Harbor Ins. Co. v. Cont'l Bank Corp.*, 922 F.2d 357, 367 (7th Cir. 1990) ("The district court was right to send the interpretive question to the jury but wrong to permit a lawyer to testify to the legal meaning of indemnification."); *Specht v. Jensen*, 853 F.2d 805, 809-10 (10th Cir. 1988) ("In no instance can a witness be permitted to define the law of the case."); *Marx & Co. v. Diners' Club Inc.*, 550 F.2d 505, 509-10 (2d Cir. 1977) ("expert testimony on law is excluded because 'the tribunal does not need the witness' judgment. . . . (T)he judge (or the jury as instructed by the judge) can determine equally well. . . .' ." The special legal knowledge of the judge makes the witness' testimony superfluous." (quoting VII Wigmore on Evidence (3d ed. 1940))).

Respondents' consultants largely make arguments that have been rebutted above or in the Staff Report: Respondents were following a "Home Run" strategy;[172] market manipulation is limited to tariff violations;[173] Respondents' round trips are not technically wash trades under the securities laws;[174] Respondents did not have scienter;[175] Respondents'round trip trades were arbitrage or spread trades;[176] market manipulation is narrowly limited to trading that changes prices or to trades not aimed at profits;[177] or the Commission approved of volume trading in its *Black Oak* orders.[178]

Some consultants offer the opinion that doing wash trades to collect MLSA in PJM is lawful because traders sometimes do something similar to collect "liquidity rebates" on certain securities trading platforms.[179] None of these consultants cite any decision by any regulator or court finding that wash trades to collect rebates in these markets is permissible.

In any event, the practices of these securities trading platforms are not relevant here. A securities trading platform, seeking to attract business from competing platforms, may choose to "pay for liquidity" by giving rebates purely based on trading volume. But PJM (with the Commission's approval) was not seeking to generate UTC trading volume for its own sake, but to implement a just and reasonable way of distributing a pool of money that was the byproduct of sending efficient price signals at hundreds of energy pricing nodes within PJM. In fact, given the finite amount of available transmission credit (ATC) available in any given hour, PJM had a compelling reason *not* to want UTC

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[172] Affidavit of Craig Pirrong, (Chen Ans. Ex. I) (Pirrong); Shanker; Affidavit of Richard D. Tabors (Chen Ans. Ex. L) (Tabors).

[173] J. Harris; Hendershott; Hogan; Spatt.

[174] J. Harris; Hunger; Wallace.

[175] Court.

[176] J. Harris; L. Harris; Mayhew.

[177] L. Harris; Spatt.

[178] Hogan; Shanker.

[179] L. Harris; Hendershott; Wallace.

trading volume for volume's sake. Whatever legal principles may apply to trades aimed at liquidity rebates paid by securities markets, they are not relevant to the Commission's task here.

Some of Respondents' consultants claim that Chen's round-trip trades are analogous to a complicated securities trading technique called a "dividend spread strategy,"[180] which Respondents argue is "not viewed as illegal by SEC staff."[181] Whatever the legality of this complex strategy under the securities laws, nothing about it suggests that Chen's strategy of doing round-trip trades to capture MLSA was lawful under this Commission's Anti-Manipulation Rule. And Respondents' statement that the strategy is "not viewed as illegal by SEC staff" is puzzling.[182] Chen does not mention that since Mayhew wrote his affidavit in 2013, the SEC (in October 2014) endorsed a determination that dividend spread trades are "not in the public interest."[183]

In sum, Respondents' consultants fail to confront the actual facts and circumstances of Chen's trading, the intent behind them, and the Commission law that applies to that trading.

F. Respondents Had Fair Notice That They Could Be Held Liable For Their UTC Round-trip Scheme

Respondents also argue that the Commission is barred from taking enforcement action against them for engaging in their round-trip UTC trading scheme because they

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[180] Mayhew; Spatt; Wallace. It takes Mayhew approximately 13 pages just to describe the strategy over the course of which it becomes clear that the instruments and circumstances involved are quite distinct from those at issue in this proceeding.

[181] Chen Answer at 28.

[182] Chen Answer at 28.

[183] Self-Regulatory Organizations; The Options Clearing Corporation; Order Approving Proposed Rule Change To Process All Sell Transactions Prior To The Exercise Of Long Options In Market-Maker Accounts To Ensure That Only Net Long Positions May Be Exercised, Exchange Act Release No. 34-73438, 2014 WL 5454151 (Oct. 27, 2014) (upholding finding that "dividend play trades have the potential to pose certain risks to market participants, including OCC clearing members, and in general, are not in the public interest").

were not adequately on notice that such a scheme was prohibited.[184] Respondents suggest that the standard for "fair notice" is "ascertainable certainty."[185] This is incorrect. The standard for fair notice is the "reasonable person" standard described in the Staff Report.[186] As the Commission has articulated it, "regulations will be found to satisfy due process as long as long as they are 'sufficiently specific that a reasonably prudent person, familiar with the conditions the regulations are meant to address and the objectives the regulations are meant to achieve, has fair warning of what the regulations require.'"[187]

Fair notice is a constitutional issue arising under the Due Process Clause, and it involves an objective standard, not a subjective one. It requires that a rule or regulation be sufficiently clear to provide a "person of ordinary intelligence" with warning of what is prohibited.[188] The reasonable person is assumed to be "familiar with the [regulated] industry"[189] and "acting in good faith."[190] Although a number of circuits employ terms like "ascertainable certainty" and "reasonably clear" to describe the level of clarity that the reasonable person standard requires, that does not change the standard itself.[191]

To determine whether there was fair notice, courts look to "what the [litigants] 'justifiably understood' and whether anything in the [rule] 'made it apparent that the

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[184] *See* Powhatan Answer at 8-25; Chen Answer at 37-54.

[185] *See* Chen Answer at 38.

[186] *See* Staff Report at 67 and cases cited therein.

[187] *Moussa I. Korouma, d/b/a Quntum Energy LLC*, 135 FERC ¶ 61,245, at P 34 (2011), quoting *Freeman United Coal Mining Co. v. Fed. Mine Safety & Health Review Comm'n*, 108 F.3d 358, 362 (D.C. Cir. 1997). *See* Staff Report at 67.

[188] *FCC v. Fox Television Stations, Inc.*, 132 S. Ct. 2307, 2309 (2012).

[189] *Crimson Stone v. Federal Mine Safety*, 198 Fed. App'x 846, 850 (11th Cir. 2006); *Stillwater Min. Co. v. Federal Mine Safety and Health Review Comm'n*, 142 F.3d 1179, 1182 (9th Cir. 1998).

[190] *Gen. Elec. Co. v. EPA*, 53 F.3d 1324, 1329 (D.C. Cir. 1995).

[191] *See* Chen Answer at 38 (asserting that the Staff Report's contention that the reasonable person standard applies "is not an accurate view of the law").

Commission meant otherwise.'"[192] Courts may also look to factors such as "the plain language of the regulation, other public statements by the agency, the consistency of the agency's public statements, an agency's pre-enforcement efforts to bring about compliance, confusion within the agency as to the proper interpretation, and whether or not a confused party makes an inquiry about the meaning of the regulation."[193]

We start with some context: there is nothing unusual about what staff asks the Commission to do in this case, or about what the Commission has done in applying its Anti-Manipulation Rule for years. That is, federal agencies routinely apply broadly-written statutory prohibitions in a flexible way as business practices change.[194] And in doing so, agencies routinely sanction parties for violating those prohibitions, rather than merely announcing purely prospective rules.

The Sherman Act, for example, states that "*[e]very contract [or] combination . . . in restraint of trade* or commerce among the several States . . . is declared to be illegal."[195] As the Supreme Court has explained, this prohibition "is sweeping in its breadth."[196] And courts have "long recognized that Congress intended this language to have a broad sweep, reaching any form of combination."[197] Ever since it was enacted in 1890, agencies and courts have applied the Sherman Act's broad language based on the facts of each individual case.

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[192] *McElroy Electronics Corp. v. FCC*, 990 F.2d 1351, 1358 (D.C. Cir. 1993) (citing *Kansas Cities v. FERC*, 723 F.2d 82, 86 (D.C. Cir.1983)).

[193] *U.S. v. Cinergy Corp.*, 495 F. Supp. 2d 892, 900-01 (S.D. Ind. 2007) (citing *Gen. Elec. Co. v. EPA*, 53 F.3d at 1329 (D.C. Cir. 1995), *U.S. v. Hoechst Celanese Corp.*, 128 F.3d 216, 224-230 (4th Cir. 1997).

[194] *See, e.g.*, *SEC v. Zanford*, 535 U.S. 813, 814 (2002) (affirming that courts defer to SEC's interpretation and application of an ambiguous provision of 10b-5 in the context of an enforcement proceeding).

[195] 15 U.S.C. § 1 (emphasis supplied).

[196] *Copperweld Corp. v. Independence Tube Corp.*, 467 U.S. 752, 784-85 (1984).

[197] *Id*.

Similarly, the Federal Trade Commission Act gives the Federal Trade Commission (FTC) broad authority to take action against "*[u]nfair methods of competition* in or affecting commerce, and *unfair or deceptive acts or practices* in or affecting commerce."[198] As does the SEC when it enforces the broad language of Section 10(b) of the Exchange Act (as implemented in Rule 10b-5), the FTC has for decades taken action against new forms of "unfair methods of competition" and "unfair or deceptive" practices, without applying any "one free bite" rule.

With respect to competition in the FTC context, the Supreme Court has emphasized that "[t]he standard of 'unfairness' under the FTC Act is, by necessity, an elusive one, encompassing not only practices that violate the Sherman Act and the other antitrust laws . . . . but also practices that the Commission determines are against public policy for other reasons."[199] Similarly, the FTC has applied its mandate to fight "unfair or deceptive acts or practices" flexibly to achieve the purposes of the FTC Act. For example, the FTC has long determined (and courts have agreed) that advertisements can be "deceptive" even though literally true.[200]

The anti-manipulation authority that Congress gave the Commission in the Energy Policy Act, and the rule that the Commission adopted based on that authority, are similarly broad, and similarly designed to be interpreted and applied in a manner consistent with the Commission's principal statutory mandate and based on the facts of individual cases. Since 2005, the Commission has done exactly that, both in cases it has taken to litigation and in cases in which it has reviewed and approved settlements.

As discussed in the Staff Report, the Commission's Anti-Manipulation Rule, in conjunction with the Commission precedents discussed above, gave more than sufficient

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[198] 15 U.S.C. § 45 (emphasis supplied).

[199] *FTC v. Indiana Fed'n of Dentists*, 476 U.S. 447, 454-55 (1986).

[200] *E.g.*, *Kraft, Inc. v. FTC*, 970 F.2d 311, 314 (7th Cir. 1992) (upholding FTC determination that advertisement was deceptive because it conveyed false implicit claims, even though explicit statements were true).

notice to a reasonably prudent person, familiar with the conditions the regulations are meant to address and the objectives the regulations are meant to achieve, of what those regulations require.[201] As discussed in the Staff Report and further in this Reply, Respondents had fair warning that their manipulative round-trip UTC scheme was prohibited because, among other things, their trading scheme was functionally equivalent to trading practices that the Commission has explicitly condemned as manipulative,[202] the Commission had previously issued public statements expressing disapproval of such practices (and no such statements to the contrary),[203] and Respondents turned away from what they themselves identified as a need to inquire about whether the practice was acceptable.[204] A reasonably prudent person, therefore, who was familiar with the conditions the Anti-Manipulation Rule was meant to address and the objectives that regulation was meant to achieve, *e.g.*, preventing and taking enforcement action against market participants who were "tak[ing] unfair advantage of the rules and procedures in the tariff," would have had more than fair warning that a wash-like round-trip UTC trading scheme like Respondents' was forbidden. Evidence of other market participants confirms this.[205]

1. Respondents Had Notice That Death Star Was Unlawful

One of the ways in which Respondents obtained fair notice that they could be held liable for their conduct was, of course, the Commission's own longstanding precedent. As already discussed, gaming practices, including Death Star, were addressed in several high-profile Commission proceedings, some of which have extended for several years. Even if Respondents disagreed with the Commission's disapproval of Death Star, the fact

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[201] *See* Staff Report at 66-71.

[202] The practices are "Circular Scheduling" a/k/a "Death Star" and wash trading. *See* Staff Report at 47-57.

[203] *See* Staff Report at 59-66.

[204] *See* Staff Report at 70-71.

[205] *See* Staff Report at 67-68.

that the Commission condemned it and that the CAISO subsequently specifically prohibited it in its tariff, provided notice to the regulated community that the Commission was likely to regard conduct similar to Death Star in a similar fashion, which is to say, as improper and manipulative. Indeed, as discussed above and in the Staff Report, gaming practices such as Death Star/Circular Scheduling were the very impetus for Congress expanding the Commission's anti-manipulation authority in EPAct, which culminated in the creation of the Anti-Manipulation Rule. That is to say, Death Star and other gaming practices created the conditions the Anti-Manipulation Rule was meant to address; preventing and punishing such conduct were the objectives the rule was meant to achieve. It is impossible to credit Respondents' assertion that "there were no prior investigations" into similar conduct "nor any industry pronouncement that even could have theoretically alerted Powhatan to the potential danger" that its scheme would be disapproved.[206]

2. Respondents Were On Notice That Wash Trades Were Unlawful

Respondents had notice that wash trading is prohibited. They further had notice that the Commission had adopted a flexible and pragmatic view of what constitutes wash trading.[207] In fact, the record in this investigation demonstrates that other market participants readily understood that the round-trip UTC trades employed in Respondents' scheme constituted wash trades. For example, in an audio recording created

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[206] Powhatan Answer at 18, 24. Powhatan claims (at 7) that the Commission is barred from pursuing manipulation claims, absent a tariff violation, because of a single sentence in oral comments by a Commission staff member in a 2009 congressional hearing. Powhatan goes on to assert (*id.*) that "[t]here is no authority *anywhere* that contradicts her statement" (emphasis in original). As demonstrated above, there is (and was in 2010) overwhelming authority that the Commission has the power to pursue manipulation claims in the absence of a tariff violation. Consistent with that fact, in her oral comments, the Commission staff member (accurately) made clear that whether conduct is manipulative is determined on a case-by-case basis: the Commission can pursue those who are "intentionally trying to manipulate the market," which "all comes down to a matter of intent." Nothing in the staff member's comments states or suggests that trades that are functionally equivalent to long-prohibited wash trades, or to the circular Death Star trades that the Commission condemned as manipulative in 2003, were now permissible.

[207] *See* Staff Report at 50-57.

contemporaneously with Respondents' trading, in the summer of 2010, an Unnamed Trader complained to Joseph Bowring, of PJM's Independent Market Monitor, that some market participants were engaged in UTC trading schemes that were "inappropriate" and "abusive" such as "import and export from the same point."[208] He then went on to describe specifically one of Respondents' favorite round-trip UTC trades: "So, if you had points sinking at a COOK and sourcing at a COOK and going to the same interface, . . . you could term that a wash trade."[209] Serge Picard, whom Chen describes as "an extremely knowledgeable trader,"[210] described Respondents' trades as "wash trades" and said of such trades, "we're never going to do that."[211] These views are perfectly consonant with the contemporaneous views expressed by Bob Steele to Kevin Gates and described in the Staff Report, that schemes like Respondents' constituted "'gaming' practices" which were perceived by "[m]ost UTC participants . . . as rank manipulation of the intended market function."[212]

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[208] *See* Office of Enforcement Staff Jan. 28, 2015 Answer in Opposition to Expedited Two-Week Extension of Time at 7 & Atts. B-2 and B-3.

[209] *Id*. The MISO-COOK path was one of Chen's favorites. He placed round-trip UTCs on that path for each of the three entities on behalf of whom he was trading. Chen Test. Vol. I Tr. 109:2-20, and *see* Attachment A.

[210] Chen Answer at 50. Chen declines to name Picard in his Answer. Enforcement staff names him here for purposes of clarity, and notes for the record that Enforcement closed its investigation of UTC trading by Picard and his firm after concluding that his UTC trading was not manipulative.

[211] Picard Test. Tr. 125:24 – 126:8.

[212] Email from Bob Steele to Kevin Gates (Aug. 20, 2010, 9:25 AM) (POW00001866), *and see* Staff Report at 31-32. In its Answer, Powhatan attacks Steele personally, claiming that he "has an ulterior motive" and "is angry with and biased against Dr. Chen and Powhatan because he thinks they threatened to 'kill the goose that laid the golden egg.'" Powhatan Answer at 46, (citing Steele Test. Tr. 169:12-13). When Steele wrote the email (and a similar one on August 5 in which he described volume trades as "gaming") STEELE000008, however, he was hoping to do business with Gates. In any event, as Steele later explained in written testimony to staff, he was merely repeating what he had heard other market participants say. Robert Steele Jan. 8, 2015 Response to Data Request 9. Powhatan notes (at 46) that one of Steele's former colleagues, Bryan Hansen, claimed years later to have thought differently about the scheme, *see* Email from B. Hansen to J. Owens (Dec. 8, 2014), but even if that is what Hansen thought at the

Chen misreads Picard's transcript. Chen's Answer states that Picard "actually sought to replicate Alan's trades—what he called 'spread' trades with low risk volatility.'"[213] But that is not what happened. In fact, Picard was adamant that, "*we don't do offsetting trades*."[214]

Instead, what happened is this: In the summer of 2010, Picard and his firm suddenly found themselves unable to trade UTCs, because no there was no available transmission capacity (ATC), which prompted him to undertake an inquiry into its causes.[215] When Picard saw Chen's offsetting trades through CU Fund, it occurred to him that there must be a flaw in PJM's system. When he saw Respondents' high-volume offsetting trades, Picard wondered whether it was also possible to execute a trade between a single point and itself, so he ran an experimental trade with a single MW UTC with the same point as POR and POD.[216] To Picard's surprise, the computer system did not reject the trade. Picard later testified:

> we realized that, researching, that companies might be doing offsetting trades. Then we had a thought, I had a thought, that maybe if this is possible, we're not sure, they could not even be putting in trades. So basically putting in the same [source] and [sink]. So we put one megawatt from, and selected the same NYS to NYS point in the E Suite. . . . . [When Picard reviewed the PJM weekly report] We saw that one megawatt was in there as a volume Up-To congestion contract, even if it was the same

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time, it does not change the fact that other traders knew (and said at the time) that it was wrongful.

[213] Chen Answer at 51, quoting Picard Test. Tr. at 98:17-99:20. Later in the deposition, Picard explained that "low risk volatility wasn't inherent" in what he was testing, but was "just a way . . . to keep from losing a lot of money" as he tried to figure out why ATC was disappearing during this period. Picard Test. Tr. 108:10-17.

[214] Picard Test. Tr. 112:4 (emphasis supplied).

[215] Picard Test. Tr. 84:20 – 88:32 (explaining that "we were not able to trade anymore" and describing his inquiry).

[216] Picard Test. Tr. 125:9-12 ("the one megawatt was after observing specifically that CU Fund Company doing 1,500 megawatts from one point to the other").

> [source] and [sink], which flabbergasted us. . . . We don't understand why you could submit a spread trade between nothing.[217]

Yet "submit[ting] a spread trade between nothing" was precisely Chen's aim. He testified that, in developing his round-trip UTC trading strategy his purpose was to "actually shrink those two nodes into one."[218] Picard was right, in other words, to associate the single-point trade with Chen's trading: Although Chen did not actually place any single UTCs with the same source and sink, he did the next best thing by placing pairs of UTCs with the same sources and sinks.

Describing his own efforts to understand why Chen and others were hoarding ATC, Picard explained,

> We don't know what other companies are using. We can only know if companies are doing offsetting trades. There's going to be one point that's going to be used twice, a negative and a positive, on that zone let's say CU Fund was using. That we can tell. As stated earlier, *we've never done offsetting trades, or wash trades or whatever they call them. We're never going to do that, so no, we did not try to copy one of those transactions*."[219]

Picard, like most market participants, had "never done offsetting trades, or wash trades or whatever they call them" because he knew that would have been wrong and harmful to the market. Speaking generally about volume-based MLSA capture schemes, Picard stated:

> We're proprietary directional traders, or spread traders, we participate in the market, we'll participate in certain stakeholder processes and if our input is requested, we'll participate. So we've been there, and we plan to be there in the future. So we're certainly not going to operate a business to collect 50 cents per megawatt and do ten million megawatts, or however, twenty one million megawatts? So we . . . start trying to figure out what to

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[217] Picard Test. Tr. 99:18 – 101:5.

[218] Chen Test. Vol. I Tr. 108:15-21; *see id.* at 79:22-24 ("if you just shrink those two nodes, take as one, you basically could reduce the day-ahead spread to zero.").

[219] Picard Test. Tr. 125:24-126:8 (emphasis supplied). *Cf.* Chen Answer at 51, claiming Picard "actually sought to replicate" Chen's trades.

> do . . . to get this resolved. This can't be happening, not in our market, it's a small market. [220]

Picard and another responsible market participant promptly called PJM to alert them to the situation. Picard explained:

> A. …. We don't want to be lumped in, because we do regular, non loss collecting whatever you can call them, or off setting trades or something. We don't want to be lumped in with companies of that sort.
>
> Q. Why not?
>
> A. Because we don't feel it's a business. It's not supposed to happen. There shouldn't be a negative fee for submitting of transactions, or transaction.[221]

When he discovered what was happening, Picard called another trader and asked whether he was also "seeing the volume disappear like this . . . And his answer was 'Yes, and *we think that other companies might be doing inappropriate type of trades* . . . ."[222]

Picard's testimony does not aid Respondents. To the contrary, it demonstrates that he—like the many other UTC traders who did not participate in MLSA schemes that summer—knew that the scheme was wrongful.

Respondents also argue that the novel nature of their scheme means that it was not captured in the anti-manipulation laws. That is not correct. The scheme in which Chen and Powhatan engaged was similar but not precisely identical to schemes previously found to be manipulative or fraudulent. But that does not mean that the Commission cannot proceed against them. There is nothing surprising about this: courts and agencies routinely identify and condemn novel manipulative schemes. That is, there is no "one free bite" rule in the law of manipulation.

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[220] Picard Test. Tr. 113:13-25.

[221] Picard Test. Tr. 117:1-17. Picard here was discussing loss collecting UTC trading generally, not limited specifically to what he elsewhere referred to as "offsetting trades or wash trades." *See* Picard Test. Tr. 126:5.

[222] Picard Test. Tr. 151:4-152:5.

Across many areas of law, the development of legal principles on a case-by-case basis, based on the facts of individual cases, is routine and long-accepted. Indeed, it is a bedrock principle of our common law system. Penalties for insider trading under the securities laws are now commonplace, for example, but there was a time when that legal theory was brand new. And when the SEC (and later courts) first determined that insider trading was a form of securities fraud, they did not do so based on a specific statutory or administrative prohibition of that conduct. Instead, they did so based on the SEC's broad, flexible anti-fraud authority under Section 10(b) of the Securities Exchange Act of 1934, as implemented in Rule 10b-5's general prohibition of "any device, scheme, or artifice to defraud."[223]

The Commission's authority is similarly broad and flexible, though of course it must be adapted to the particulars of its unique statutory mission and of the massively complex and important industry it regulates.[224] Consequently, as discussed in the Staff Report, the Commission long ago concluded that one cannot "demand that a regulatory agency have the prescience" to identify "all possible misconduct in which a particular market participant could conceivably engage. That standard is unrealistic and would render regulatory agencies impotent to address newly conceived misconduct . . . ."[225] In this vein, while precedent is instructive—whether it arises under the Federal Power Act,

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[223] The SEC first determined that insider trading violates Rule 10b-5 in *Cady, Roberts & Co.*, Exchange Act Release No. 6668, 40 SEC 907 (Nov. 8, 1961). In "a case of first impression," the SEC found that a business owner "willfully violated Sections 17(a) and 10(b) and Rule 10b–5" by engaging in insider trading. *See Chiarella v. United States*, 445 U.S. 222, 226-27 (1980) ("[In *Cady, Roberts & Co.*,] [t]he SEC took an important step in the development of § 10(b) when it held that a broker-dealer and his firm violated that section by selling securities on the basis of undisclosed information obtained from a director of the issuer corporation who was also a registered representative of the brokerage firm."). Federal courts soon endorsed the SEC's conclusion that, although Rule 10b-5 says nothing specifically about insider trading, the Rule prohibits that conduct. *See SEC v. Texas Gulf Sulphur Co.*, 401 F.2d 833, 848 (2d Cir. 1968). Neither the SEC nor the courts applied a "one free bite" rule in doing so.

[224] *See Barclays*, 144 FERC ¶ 61,041 at P 58.

[225] *American Electric Power Service Corp., et al.*, 106 FERC ¶ 61,020, at P 45 (emphasis omitted), quoted in Staff Report at 49.

the Securities Exchange Act or elsewhere—the fact that a specific manipulative scheme has not previously arisen (and been condemned) in all its particulars is no obstacle to lawfully taking enforcement action against the perpetrators of such a scheme.

This is especially so in the current context: wholesale energy markets are both relatively new compared to securities and commodities markets, and extraordinarily complex. They thus furnish opportunities for the unscrupulous to fashion new devices to fraudulent ends. The confluence of MLSA (a feature unlike anything in securities markets), UTCs (an instrument unlike any in securities markets), and Day-Ahead settlement prices (another feature unlike anything in securities markets) provided Respondents with just such an opportunity. That this *precise* scheme has not previously arisen is neither surprising nor problematic. Similar schemes have, and they have been condemned.[226] As the First Circuit has explained in the more stringent criminal context, "[f]air warning . . . does not mean that the first bite is free, nor does the doctrine demand an explicit or personalized warning."[227]

3. The Role of Arbitrage & the *Black Oak* Proceeding

In contrast to Respondents' claims, Chen's round-trip UTC trading strategy was not arbitrage. Arbitrage involves profiting off of mispriced assets and doing so in a way that helps restore those assets to their proper price.[228] This is the rationale for virtual trading in ISOs in general and the financial trading of UTCs in particular: where there are inefficiencies or mispricing in the Day-Ahead market relative to the Real-Time market, arbitrageurs can execute trades that simultaneously capture the benefit of that inefficiency or mispricing and at the same time move the Day-Ahead price closer to the

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[226] *See* section II.B, *supra*; *see also* Staff Report at 47-58 and 73-74.

[227] *United States v. Arcadipane*, 41 F.3d 1, 5 (1st Cir. 1994).

[228] *See* Randall S. Billingsley, Understanding Arbitrage: An Intuitive Approach to Financial Analysis 8 (FT Press, 1st ed. 2005) ("The act of arbitraging mispriced assets should return prices to their appropriate values. This is because investors' purchases of the cheaper asset will increase the price, while sales of the overpriced asset will cause its price to decrease.").

Real-Time price, *i.e.*, promote convergence. Thus, given the appropriate volume of trades with the appropriate price information, the inefficiency or mispricing will eventually be arbitraged away.

Back in 2005, the Commission explained that

> Arbitrageurs provide important benefits to bid-based markets by helping to ensure that Day-Ahead and Real-Time prices do not diverge significantly, as well as by providing price discovery and liquidity to the market. For example, suppose load underschedules expected demand in the Day-Ahead market, *i.e.*, submits bids in the Day-Ahead market at a location that reflects demand less than what could be considered reasonable based on weather and other data. Because scheduled demand is less, the Day-Ahead price would be reduced and load could benefit (even if its scheduled Day-Ahead quantity is incorrect) by procuring a portion of its actual load at a Day-Ahead price less than the price that would have resulted if a larger quantity had been scheduled Day-Ahead. Arbitrageurs, however, seeing such bidding activity, would have an economic incentive to buy power in the Day-Ahead market at the Day-Ahead price because of the expectation that prices in the Real-Time market will be higher due to higher demand. The arbitrageurs' bids in the Day-Ahead market would increase the Day-Ahead price, bringing it into closer convergence with the Real-Time price.[229]

The Commission has, on multiple occasions, emphasized the value of arbitrage—specifically, arbitrage using financial products like virtuals (of which UTC is a species).[230] That, indeed, is the whole purpose of having financial trading in the

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[229] *ISO New England, Inc.*, 113 FERC ¶ 61055, at P 30 (2005).

[230] *See Id.* ("Arbitrageurs provide important benefits to bid-based markets by helping to ensure that Day-Ahead and Real-Time prices do not diverge significantly, as well as by providing price discovery and liquidity to the market."); *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity, and Ancillary Services by Public Utilities*, 119 FERC ¶ 61,295, at P 921 n.1047 (2007); *PJM Interconnection, L.L.C.*, 104 FERC ¶ 61,309, at P 20 (2003) ("Generally speaking, we agree that virtual bidding can provide market benefits such as increased market liquidity and price convergence between the day ahead and real time markets") (citation omitted), *reh'g granted on other grounds*, 109 FERC 61,286 (2004).

wholesale energy markets in the first place. The Commission reiterated this perspective many times in the *Black Oak* proceeding.[231]

Chen's round-trip UTC trades were different. He was not seeking to profit from inefficient pricing of the Day-Ahead market relative to the Real-Time market. He was seeking to profit from an inefficiency—"a loophole . . . an anomaly, something that nature shouldn't allow"[232]—in PJM's settlement mechanisms, specifically, the fact that in the "hot summer, cold winter" MLSA distributions would be predictably higher than the transaction costs associated with executing the trades. Neither the total size of the MLSA pool nor the costs of transacting could be affected by the number or volume of the trades executed. Inherent to the market design of using locational marginal price, even if the Day-Ahead market relative to the Real-Time market converged (or was arbitraged away) there would still be excess losses collected above average losses to be placed in the MLSA pool. Given the size of the MLSA pool in the hours in which Chen executed his round-trip trades, and the limited amount of ATC, no amount of trading would ever arbitrage away that inefficiency. In fact, from Chen's perspective, the more MLSA eligible MWh he could trade, the more MLSA he could capture.

Respondents misinterpret the meaning and significance of the *Black Oak* proceeding. Respondents contend that, because parties to the *Black Oak* proceeding warned of the possibility that financial traders (like Respondents) could employ virtual trades in a high-volume trading scheme, and because the Commission expressed concern about that possibility, the fact that the Commission ultimately approved a set of tariff provisions that turned out not to preclude the implementation of such schemes means that the Commission must have, *sub silentio*, given its blessing to such schemes. This is wrong, for reasons discussed at length in the Staff Report.[233]

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[231] *See* Staff Report at 59-66.

[232] Chao Chen Test. Tr. 99:20-21.

[233] Staff Report at 59-66.

For Respondents' arguments about *Black Oak* to be correct, the Commission would need to have silently reversed itself on many crucial points—on the purpose and function of virtual trading in RTO and ISO markets being to promote convergence and efficiency in the market, on its disapproval of high-volume virtual trading schemes for the purpose of capturing credits, on its longstanding view that exploiting market flaws through unusual trades constitutes manipulative gaming, on its condemnation of the Death Star scheme, and on its disapproval of wash trading. And the Commission would have had to do all of these things without saying a *single word* about these radical departures from precedent. That is not what happened.

Powhatan's invocation of the *National Fuel Marketing* (*NFM*) case is unavailing.[234] *NFM* is nothing like this case, either substantively or procedurally. In *NFM*, the Commission issued an Order to Show Cause about bidding by multiple affiliates to get a larger allocation of pipeline capacity than the parent company could have acquired by itself. Two Commissioners dissented from issuance of an Order to Show Cause because of a concern about whether market participants were adequately on notice that this type of affiliate bidding was prohibited, though the majority did not share this view. In any event, the concerns expressed by the dissenting Commissioners in *NFM* have no parallel here.

In *NFM*, the dissenters focused on the fact that after Enforcement publicly objected to the way in which certain firms did affiliate bidding in 2002, the Commission's later Orders (in their view) did not endorse Enforcement's position.[235] In particular, according to the dissent, when a group of shippers thereafter asked the Commission to "change its policy on affiliate bidding so that all affiliate bids would be evaluated as if they were one bid," the Commission "twice declined" to do so.[236]

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[234] Powhatan Answer at 16-19, citing, *Nat'l Fuel Mktg. Co., LLC, et al.*, 126 FERC ¶ 61,042 (2009) (Order to Show Cause and Notice of Proposed Penalties).

[235] *E.g.*, Moeller Dissent at 4-6.

[236] *Id.* at 6.

In other words, in the dissent's view, in *NFM* (i) certain entities *actually engaged* in a particular bidding technique, (ii) the Commission was thereafter aware of this actual bidding technique, (iii) the Commission was specifically asked to change the rules in light of this actual bidding technique, (iv) the Commission twice declined to do so, and (v) all of this occurred before the bidding at issue in the *NFM* Order to Show Cause.

The circumstances here are completely different. Here, no market participant engaged in the relevant bidding strategy—volume trading to collect MLSA—until 2010, *after* the Commission issued the relevant Order (in 2009) approving PJM's tariff. As a result, unlike in *NFM*, when the Commission issued the relevant Order, it was not aware of any market participant *actually engaging* in the relevant bidding strategy (here, volume trading to collect MLSA). Nor, obviously, did anyone ask the Commission to change the tariff rules approved in its 2009 Order until *after* Chen, Powhatan, and others carried out their volume trading strategy in the summer of 2010. And unlike in *NFM*, as soon at PJM became aware of that relevant bidding conduct, it immediately sought (and quickly got) Commission approval to change the rules to block it.

In any case, Chen knew better. He testified that "[t]he up-to congestion is like one type of financial trades. You're just trying to improve the day-ahead and real-time price spreads. You're actually trying to make them converge, and so that the goal is to improve market efficiency."[237] Chen even explained the mechanism whereby convergence was achieved.[238] He understood that the benefits of trading financial products like UTCs were, by design, "two-way":

Q. . . . your motivation is not to benefit the system, correct?

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[237] Chen Test. Vol. I Tr. 31:14-18; *see also id*. at 115:6-8 (acknowledging that price convergence is "the goal of up-to congestion trades").

[238] Chen Test. Vol. I Tr. 32:7 – 33:1 (explaining that UTCs make the market more efficient because they effectively combine a "short in day-ahead and long in real time . . . which will reduce the spread between day-ahead price and real-time price. . . . If you have a converged day-ahead and real-time price will help the system on the efficiency front."); and *id*. at 117:1-118:5.

A. If I understand your question correctly, the answer is no. I do intend to benefit the system at the same time I get reward back. *It's two-way. If you provide the system some value, you get a profit*. If you don't provide any value to the system, you actually are losing money.

Q. Let me ask it a different way. You're in business to make money, correct?

A. That is correct.

Q. Not to provide value to the system, correct?

A. That is correct. Let me go back to that point. *It depends on how you put the trades on*. I mean up-to congestion trades, *the essence is to provide value to the system*. That's actually the first goal of this type[] of trade[]. No matter if your intention is making money or losing money.[239]

Yet Chen implemented a strategy of UTC trades designed to extract profits from the system without providing the system any value in return. Nothing in the *Black Oak* proceeding or anywhere else gave him reason to believe that such a strategy was anything less than a complete inversion of the entire intended design of financial trading.

III. Respondents Had Scienter

Respondents' Answers challenge Enforcement staff's finding that they acted with the requisite scienter under Part 1c. According to Respondents, one can only violate Part 1c if he or she intends to violate the rule.[240] Since Respondents did not *intend to violate the rule* (so they contend), they claim that they cannot be found to have violated it.

Respondents are wrong. If they were right, ignorance of the Commission's rules would guarantee immunity for violating them.

The intent that matters here is the intent to effectuate a manipulative or deceptive scheme—whether or not Respondents subjectively thought of it as a "manipulative

[239] Chen Test. Vol. I Tr. 117:24 – 118:15 (emphases supplied).

[240] *See* Chen Answer at 55 ("Chen never thought his trades were unlawful and he never intended to engage in misconduct."); *id*. at 56 ("Chen states that he 'never thought that the paired UTC trades were unlawful wash trades or anything like wash trades.'") quoting Chen Aff. at ¶ 30.

scheme" is quite beside the point. Here, Respondents knowingly developed a deceptive scheme to obtain MLSA that would otherwise have gone to other market participants and to do so by gaming PJM's tariff rules.

Whether Respondents thought they were breaking the law or simply being clever is beside the point. As discussed in the Staff Report, Respondents consciously decided not to obtain advice about their trading strategy. They knew there were concerns about the scheme's legality, and discussed whether they should obtain legal or regulatory advice about it. But they chose not to—presumably because they thought they would not like the advice given had they sought it. The March 5, 2010 email in particular shows that they knew that the scheme was legally risky: they openly worried that the RTO would demand they return all of the money so received.[241] They knew that distribution of MLSA in amounts exceeding fixed transaction costs was unintended, which was why they were concerned about reorienting their trading around the high-volume MLSA trade capture strategy.[242] Unlike price differentials in the market, the relationship between MLSA and fixed transaction costs could not be arbitraged away.

Respondents seem to suggest that because the round-trip trades were intended to make money, they could not have been manipulative.[243] This is incorrect. All manipulative schemes are undertaken with the intent to secure profit.[244] Moreover,

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[241] Email from Alan Chen to Kevin Gates (Mar. 5, 2010 at 11:28 AM) (POW00016981); Email from Kevin Gates to Alan Chen (Mar. 5, 2010 at 03:59:47 PM); and *see* Staff Report at 20-22, 76-77. Regardless of whether the March 5 email correspondence related solely to "clawbacks" or both to clawbacks and disgorgement of unjust profits, the point remains that they understood that targeting MLSA was legally risky. Clawbacks occur, after all, when monies have been distributed erroneously; Respondents decided to make exploiting such an error the focal point of their UTC trading.

[242] At their June meeting, Gates and Chen discussed whether the round-trip trading scheme was "maybe just like cancelling trades." Chen Test. Vol. II Tr. 160:24-25.

[243] *See* Powhatan Answer at 37.

[244] *See, e.g.*, *Barclays Bank, PLC et al*., 144 FERC ¶ 61,041, at P 60 (2013) ("manipulation is not a legitimate business purpose"); *San Diego Gas & Elec. Co. v. Sellers of Energy and Ancillary Services*, 129 FERC ¶ 61,147, at P 21 (2009) ("Engaging in manipulation, for example, in order

Respondents knew that UTC trading was designed for the purpose of promoting convergence and market efficiency by aligning the incentives to seek profit with the intended outcome of greater price stability and convergence between Day-Ahead and Real-Time prices, just as they knew that offsetting trades subverted this purpose.[245]

Respondents also contend that scienter cannot be proven because, while they were seeking to harvest MLSA through round-trip trades, they were supposedly also pursuing a "Home Run" strategy. That argument fails for two reasons. The first is that, as discussed above, they were *not* pursuing a "Home Run" strategy, but doing the opposite: their goal was to *avoid* broken legs, not to encourage them. And in any event, even if Chen and Powhatan had also been pursuing a "Home Run" strategy (and they were not), it would not matter: as the Commission has explained, "[a] manipulative purpose, even if mixed with some non-manipulative purpose, satisfies the scienter requirement."[246]

Respondents' intention was to implement a scheme to capture MLSA by engaging in a series of high-volume offsetting UTC trades that exposed them to no market risk. Respondents understood that this subverted the intended function of UTC trading,[247] and that their profits were completely divorced from the forces of supply and demand in the market.[248] They implemented this scheme through wash-like round-trip UTC trades that

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to maximize profits, is not legitimate business behavior.") quoting *Investigation of Anomalous Bidding Behavior and Practices in Western Markets*, 103 FERC ¶ 61,347, at P 13 n.15 (2003).

[245] Chen Test. Vol. I Tr. 118:11-15 ("I mean, up-to congestion trades, the essence is to provide value to the system. That's actually the first goal of these type of trades. No matter if your intention is making money or losing money."); Chen Test. Vol. I Tr. 118:3-5 ("If you provide the system some value, you get a profit. If you don't provide any value to the system, you actually are losing money."); Chen Test. Vol. II Tr. 159:23-24 (in round-trip trades "you don't have a directional bet").

[246] *Barclays Bank, PLC et al*., 144 FERC ¶ 61,041, at P 70 (2013); *see also id.* P 69 ("sole intent is not the applicable legal standard. Rather, under the Commission's Anti-Manipulation Rule, the Commission will make a holistic determination based on the overall facts and circumstances.") (internal quotations and citations omitted).

[247] *See, e.g*., Chen Test. Vol. I Tr. 31:15-18, 32:10-33:1, 148:1-20.

[248] *See, e.g*., Staff Report at 25, citing, *inter alia*, K. Gates Test. Vol. II Tr. 216:13 – 217:3 (likening their strategy to "a monkey . . . throwing darts").

negated market risk. They understood that the distribution of MLSA in excess of transaction costs was an unintended feature of the market that would be promptly remedied once it was discovered, and that targeting MLSA through trading that essentially negated market risk was legally questionable.[249] In short, they knew their strategy impeded, obstructed, or defeated a well-functioning market.

Respondents' scienter is also shown by their invention of a false post hoc explanation—the "Home Run" strategy—for their conduct. As the D.C. Circuit has explained, it is a "well-settled principle that false exculpatory statements are evidence—often strong evidence—of guilt." *Al-Adahi v. Obama*, 613 F.3d 1102, 1107 (D.C. Cir. 2010). Federal courts throughout the country are in agreement on this point.[250]

Chen's scienter is further confirmed by his repeated admissions that he himself believed that that the purpose of UTC trades is to try to profit from spread changes, since he knew that his round-trip trades were the exact opposite. For example, Chen testified that "Up-to congestion trades is [*sic*] going to improve the price convergence. *The goal is to take advantage of the price spreads in day-ahead and real-time market*."[251] He stated that the "essence" of UTC trades "is to provide value to the system."[252] And he testified:

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[249] *See* Staff Report at 24-29, 76-77; *see also Wilson v. Commodity Futures Trading Commission*, 322 F.3d 555, 560 (8th Cir. 2003) (upholding CFTC's determination that trader engaged in manipulation where the trader "knowingly participated in wash sales because the evidence sufficiently demonstrated that [the trader] knew that the orders underlying [the] transactions were designed to negate risk.").

[250] *E.g.*, *United States v. Vu*, 378 F. App'x 908, 909 (11th Cir. 2010) ("[I]t is reasonable for the jury to infer that a defendant's false statement to police demonstrates a consciousness of guilt."); *United States v. Elashyi*, 554 F.3d 480, 495 (5th Cir. 2008) ("[Defendant's] false statements 'provide[ ] persuasive circumstantial evidence of [his] consciousness of guilt'") (citing *United States v. Diaz-Carreon*, 915 F.2d 951, 955 (5th Cir. 1990)); *United States v. Clark*, 45 F.3d 1247, 1251 (8th Cir. 1995) ("The false exculpatory statement instruction is aimed at pretrial fabrications, on the theory that the innocent do not fabricate to avoid being accused of crime").

[251] Chen Test. Vol. I Tr. 87:20-22.

[252] *Id.* at 118:10-15.

Q Was it your goal to make the prices converge, or are you saying that *the purpose of having the up-to congestion product is for the benefit of the market to have the prices converge*?

A It's the latter, yes, *not just my goal. It's actually this type of product called for*, yeah.[253]

Chen complains that the Staff Report cites to emails that were not written by him during the implementation of Respondents' manipulative scheme.[254] But there is no requirement that scienter be inferred only from documents created by the individuals executing the scheme during the precise time that it was being implemented. In fact, the Commission recently rejected similar arguments in *Barclays*, explaining that, "the fact that a particular email or IM may not coincide precisely in time with the commission of a manipulative act does not dilute that evidence."[255] Like the respondents in *Barclays*, Chen

> cite[s] no legal authority to support the proposition that the intent to implement a manipulative or fraudulent scheme can only be proven with evidence authored or uttered by the individuals engaged in the alleged scheme at the exact time at which the act was alleged to have occurred. That is because there is no such requirement. Far from it: it is well-established that, "[t]he presence of a fraudulent intent is rarely susceptible of direct proof, and must instead be established by legitimate inferences from circumstantial evidence. These inferences are based on the common knowledge of the motives and intentions of men in like circumstances.[256]

Here, the evidence demonstrates that the Respondents acted with scienter when they devised and implemented their manipulative scheme to make round-trip UTC trades to capture a larger share of the MLSA. Nothing in their arguments demands a contrary finding.

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[253] *Id.* at 115:10-15.

[254] Chen Answer at 55-62.

[255] *Barclays* at P 75.

[256] *Barclays* at P 75, quoting *U.S. v. Sullivan*, 406 F.2d 180, 186 (2d Cir. 1969) (additional citations omitted).

IV. The Commission Has Jurisdiction Over Chen and His Transactions

In his Answer, Chen states that the Commission neither has jurisdiction over the transactions at issue here nor authority to penalize individuals. That is not correct.

A. Respondents' Trades Are Subject To The Commission's Jurisdiction

Respondents argue that their trades were beyond the Commission's statutory reach because, they claim, Chen's UTC trades "were purely financial transactions, both from a sales and a transmission perspective, and thus are not jurisdictional sales of physical power or purchases of transmission of physical power."[257] Chen also states that "while imports into PJM did require making and paying for transmission reservation, it was not a reservation of physical transmission."[258] Respondents further contend that, while some UTC trades may be "in connection with" jurisdictional transactions, the specific UTC trades at issue in this proceeding were not, "because Enforcement's case here starts from the proposition that the trades were always offsetting in the time period at issue, and thus never affected congestion outcomes."[259] These assertions cannot be squared with the facts or law.

As Chen acknowledges, the Commission has jurisdiction over wholesale sales of power and the interstate transmission of power.[260] But Congress *also* granted the Commission authority over rates and charges "*in connection with* the transmission or sale of electric energy subject to the jurisdiction of the Commission,"[261] to determine whether "any rule, regulation, practice, or contract *affecting* such rate, charge, or classification is

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[257] Chen Answer at 63.

[258] Chen Answer at 63. There is no such thing as "virtual" transmission.

[259] Chen Answer at 64.

[260] Chen cites to several Commission decisions that stand for the uncontroversial proposition that the Commission has jurisdiction over the actual delivery of power. Chen Ans. at 63 n.168 (citing *Cal. Pac. Elec. Co.*, 133 FERC ¶ 61,018 (2010); *Ne. Utils. Serv. Co.*, 107 FERC ¶ 61,246 (2004); *Detroit Edison Co.*, 95 FERC ¶ 61,415, *order on reh'g*, 96 FERC ¶ 61,309 (2001)).

[261] FPA section 205(a) (emphasis supplied).

unjust, unreasonable, unduly discriminatory or preferential,"[262] and to prescribe rules and regulations to prevent "any entity" from "directly or indirectly, [] us[ing] or employ[ing], *in connection with* the purchase or sale of electric energy or the purchase or sale of transmission services *subject to the jurisdiction of the Commission*, any manipulative or deceptive device or contrivance."[263] Thus, the Commission's jurisdiction extends to transactions that were "integral part[s] of the transactional chain,"[264] as well as to transactions integrated into the price model, such as virtual trades.[265]

First, Respondents assert that the Commission has no jurisdiction over UTC trades on grounds that they are "purely financial transactions" that are "no more jurisdictional than a virtual inc or dec."[266] But that is incorrect. Like other virtual trades, UTCs are not "purely financial" (in this sense) because they are an integral part of PJM's Day-Ahead model;[267] indeed, "PJM actually dispatches generation in the Day-Ahead market based on

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[262] FPA section 206(a) (emphasis supplied) and see *Prior Notice and Filing Requirements Under Part II of the FPA*, 64 FERC ¶ 61,139, at 61,984-96 (1993).

[263] FPA section 222(a) (emphasis supplied). The Commission's anti-manipulation authority plainly reaches all conduct that is otherwise subject to the Commission's jurisdiction under other provisions of the FPA.

[264] *Automated Power Exch., Inc. v. FERC*, 204 F.3d 1144, 1147, 1153 (D.C. Cir. 2000) (affirming FERC's decision and noting that "Congress chose broad language to describe FERC's jurisdiction"); *S. Cal. Edison Co.*, 80 FERC ¶ 61,262, at 61,946-47 (1997) (determining that "we believe it is reasonable to construe both the bidding participants and the PX to be engaged in sales of electric energy.").

[265] *Cal. Indep. Sys. Operator Corp.*, 110 FERC ¶ 61,041, at P 31 (2005) ("since convergence [i.e., virtual] bidding affects the market clearing price for wholesale power by determining, in conjunction with other bids, the unit that sets the market clearing price, the Commission has statutory authority over this type of bidding to ensure that the rates it produces are just and reasonable").

[266] Chen Answer at 63.

[267] *See, e.g.*, Andrew L. Ott, *Experience with PJM Market Operation, System Design, and Implementation*, 18:2 IEEE Trans. On Power Sys. 528 (2003), http://home.eng.iastate.edu/~jdm/ee553/Ott.pdf ("the day-ahead market settlement is based on scheduled hourly quantities and on day-ahead hourly prices, the balancing settlement is based on hourly integrated quantity deviations from day-ahead scheduled quantities and on real-time prices integrated over the hour.").

the bids submitted by arbitrageurs."[268] The Day-Ahead market includes price-sensitive power bids, incs and decs, and UTCs, all of which "are integrated into PJM's calculation of the day-ahead LMP on an identical basis as generators and load,"[269] and therefore all such trades play an important role in setting Day-Ahead prices.[270] Even one of Respondents' consultants (William Hogan) recently pointed out that trades such as UTCs "can affect the commitment and dispatch choices of the system operator." Hogan contrasted trades such as UTCs that are tied into the physical market with transactions that "could be constructed through private arrangements outside the organized market administered by the RTO" that "would not need to be explicitly considered in the commitment and dispatch."[271] Respondents' argument applies only to the latter sort of trade described by Hogan, and not at all to UTCs.

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[268] *Black Oak Energy LLC, et al.*, 125 FERC ¶ 61,042, at P 28 (2008).

[269] *Black Oak Energy*, 122 FERC ¶ 61,208, at P 33 (2008). *See* PJM Interconnection LLC Compliance Filing, *PJM Interconnection, LLC*, Docket No. ER00-1849-000, at 4-10 (filed Mar. 10, 2000) (PJM Compliance Filing). *See also* PJM, *Analysis of Up-To-Congestion Transactions*, at pp. 6, 14-17 (2013), available at http://www.pjm.com/~/media/committees-groups/committees/mc/20130624-webinar/20130624-item-02-utc-transaction-analysis.ashx.; Monitoring Analytics Ans. and Mot. for Leave to Ans., *PJM Interconnection LLC*, Docket No. ER13-1654-000, at 14 (filed Aug. 2, 2013); PJM Ans., *PJM Interconnection LLC*, Docket No. ER13-1654-000, at 13 (filed July 15, 2013).

[270] *Black Oak Energy, LLC v. FERC*, 725 F.3d 230, 238 (D.C. Cir. 2013) (virtual trades "contribute to the fluctuation of the market price, which in turn influences whether load-serving entities . . . will purchase electricity at a given time"); *see* Andrew L. Ott, *Experience with PJM Market Operation, System Design, and Implementation*, 18:2 IEEE Trans. Power Sys. 528 (2003) http://home.eng.iastate.edu/~jdm/ee553/Ott.pdf ("The day-ahead market is a forward market in which hourly clearing prices are calculated for each hour of the next operating day based on generation offers, demand bids, virtual supply offers, virtual demand bids and bilateral transaction schedules submitted into the day-ahead market").

[271] W. Hogan, *Financial Transmission Rights, Up To Congestion Transactions and Multi-Settlement Systems*, at 6-7 (2012), http://www.hks.harvard.edu/fs/whogan/Hogan_UTC_071612.pdf. As Hogan further explained, "[w]hile it is true that anyone can write a contract that looks like an FTR, UTC or virtual bid, only the system operator can support a set of contracts that fully respect and utilize the limited capacity of the grid." *Id.* at 6.

Second, Respondents also claim that the Commission does not have jurisdiction when "a transaction does not result in the delivery of electricity,"[272] and in so doing they cite to a Commission order from the mid-1990s and to a report by an Administrative Law Judge from well over a decade ago.[273] These decisions are inapposite because they stand for the proposition that the Commission may not exercise jurisdiction over so-called "*purely* financial" transactions, *i.e.*, transactions unrelated to the physical market, unlike UTCs.

Chen cites a footnote from the ALJ report in *Puget Sound*[274] for the proposition that "Commission precedent on this issue is clear—the Commission has asserted jurisdiction only over those transactions that result in the physical delivery of electricity."[275] That text relies on *Morgan Stanley*, which Chen also cites for substantially the same proposition, and *NYMEX*.[276] None of those decisions is applicable here. As the Commission later explained, *Morgan Stanley* and *NYMEX* addressed only so-called "*purely* financial" transactions such as those "usually performed in the futures market."[277] By contrast, the Commission has authority over transactions that do not result in actual delivery of electricity where "such transactions … plainly affect or relate to [jurisdictional] transactions and the prices paid for power sales that do go to delivery."[278] Similarly, the Commission has determined that wash trades and round trips

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[272] Chen Answer at 63.

[273] Chen Answer at 63 and n.169.

[274] *Puget Sound Energy, Inc. v. All Jurisdictional Sellers of Energy*, 96 FERC ¶ 63,044 (2001) (*Puget Sound*).

[275] Chen Answer at n.169, quoting *Puget Sound* at 65,381 n.318.

[276] *Morgan Stanley*, 69 FERC ¶ 61,175 (1994); *New York Mercantile Exchange*, 74 FERC ¶ 61,311 (1996) (*NYMEX*).

[277] *Order Seeking Comments on Proposed Data Sets*, 97 FERC ¶ 61,317, FERC Stats. & Regs. ¶ 35,541, at P 7 (2001) (Data Sets Order).

[278] *Revised Public Utility Filing Requirements*, Order No. 2001, FERC Stats. & Regs. ¶ 31,127, at P 285 (2002), *see also, id*. P 32 ("these transactions, at a minimum, relate to sales for resale of electric energy in interstate commerce ….").

have to be reported even though they "offset each other and no transmission is needed to effectuate the power sale,"[279] and that it has jurisdiction over virtual trades even though no actual delivery of power is contemplated in the transaction.[280] This approach has been affirmed by the appeals courts as well.[281] And that means that the Commission properly exercises jurisdiction over UTCs.

Third, Chen also contends that UTC trades did not affect transmission services, but that is not accurate. The Commission's authority over transmission services extends to Available Transmission Capacity (ATC), which is the amount of MWh transmission capacity on a given path available to be reserved at any given time.[282] Chen affected available capacity with his huge volume of reservations. This provides the Commission with an additional basis for exercising jurisdiction here.

At the time of the trades in question, Chen's UTC trades required him to reserve non-firm point-to-point transmission, which was a finite resource. Although he erroneously states that he was only required to reserve transmission for imports into PJM,[283] in fact all UTC trades at that time required non-firm transmission reservation—he simply did not have to *pay* an OASIS fee to reserve transmission on his exports to

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[279] *Revised Public Utility Filing Requirements*, 100 FERC ¶ 61,074, at PP 23, 25-26 (2002).

[280] *Cal. Indep. Sys. Operator Corp.*, 110 FERC ¶ 61,041, at P 31 (2005).

[281] *Automated Power Exch.*, 204 F.3d at 1153.

[282] *Capacity Benefit Margin in Computing Available Transmission Capacity*, 88 FERC ¶ 61,099, at 61,236 (1999) (the Commission established open-access transmission and the OASIS system "to allow transmission customers to determine the availability of transmission capacity," and the information posted on OASIS "included both total transmission capability ... and ATC"). The Commission's jurisdiction encompasses instances in which transmission capacity reservations affect the grid's "ability to accommodate additional interstate energy transactions." *Arizona Pub. Serv. Co. v. Idaho Power Co.*, 91 FERC ¶ 63,004, at 65,071 (2000), *aff'd*, 100 FERC ¶ 61,253, Order No. 460 (2002). And, because "maintaining adequate resources … has a significant and direct effect on jurisdictional rates and services," the Commission has jurisdiction over resource adequacy. *PJM Interconnection, LLC*, 119 FERC ¶ 61,318, at P 48 (2007).

[283] Chen Answer at 63.

MISO.[284] Non-firm transmission reservations that were willing to pay congestion receive priority over those that were not willing to pay congestion, and they competed with each other on a first-come first-served basis for ATC.[285] To make a reservation for non-firm capacity, there had to be enough ATC on the desired path.[286] Non-firm reservations included UTCs *and* physical deals.[287] Thus, during the summer of 2010, UTC traders had to reserve transmission on their desired paths, and in so doing they competed for a finite amount of ATC. This means that a trader reserving large volumes of transmission could tie up transmission that other market participants could have used to do their own physical and UTC deals.

That is what happened here. Chen reserved huge amounts of transmission to effectuate his manipulation. As detailed in the Staff Report, Respondents collectively reserved more than 16.6 *million* MWh of transmission.[288] According to PJM's referral,[289] all market participants scheduled a *total* of approximately 161 million MWh against paid transmission during the hours when Respondents were engaged in their manipulative scheme. That means that the Respondents tied up more than *10 percent* of all Day-Ahead transmission reservations in PJM to effectuate their manipulation. Other traders noticed and complained when they found that there wasn't enough transmission

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[284] PJM OASIS, Regional Transmission and Energy Scheduling Practices, Version 14 at 50 (July 15, 2009), *available at* http://www.pjm.com/~/media/committees-groups/committees/mic/20090611/20090611-item-05b-regional-practices1.ashx (PJM Manual).

[285] PJM Manual at 16.

[286] PJM Manual at 9.

[287] PJM Manual at 40.

[288] Staff Report at 81.

[289] *See* Redacted 2010 08-16-13-PJM Referral of Behavior.pdf, at pp. 111-72. This spreadsheet was a preliminary analysis of the conduct and does not include all of the transactions that staff uncovered during this investigation, and as such PJM's calculation of the "total" MWh reserved at that time may be subject to amendment when compared to the trades at issue in this proceeding. Nevertheless, the columns entitled "Total PJM MWh" provides insight into the quantity of transmission reservations during the period in question.

capacity for them to schedule their own deals.[290] Put simply, Respondents' huge transmission reservations provide the Commission with an additional basis of jurisdiction here.

Finally, Chen argues that even if some UTCs "can affect RTO price outcomes and therefore are 'in connection with' jurisdictional transactions," nevertheless the Commission has no jurisdiction over *his* UTC trades "because Enforcement's case here starts from the proposition that the trades were always offsetting in the time period at issue, and thus never affected congestion outcomes."[291] That is incorrect. The Commission's jurisdiction does not depend on whether a particular transaction actually affected market prices or transmission, but whether it had the *potential* to do so—and, as discussed above, by definition UTC trades have the potential to affect prices and transmission because they are integrated into PJM's Day-Ahead model. Neither the Commission nor the courts have ever held otherwise.[292] Chen's argument also depends on the faulty assumption that his wash-like trades did not affect congestion. He does not offer any evidence to support this. Moreover, this argument depends on the proposition that the congestion effect of Chen's trades should be netted to zero because he offset them. But, for the purposes of jurisdiction, each trade should be examined on its own as well as aggregately—indeed, as discussed above, the Commission already requires

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[290] *See, e.g.*, Picard Test. Tr. 84:19 – 88:9 (describing his efforts "to figure out what was occurring in the market that was preventing us from doing our own trading"); *id.* at Tr. 93:24 – 94:21 ("we could see the CU Fund Company doing 1,500 megawatts or 5,000 megawatts from somewhere to a zone, and from that zone back"); *id.* at Tr. 92:11-13 ("Is somebody moving a state somewhere? Because that's the kind of power we're talking about.").

[291] Chen Answer at 63-64.

[292] For instance, in *Automated Power Exch. v. FERC*, 204 F.3d 1144 (D.C. Cir. 2000), the court looked to whether the power exchange was integrated into the chain of transactions in affirming FERC's exercise of jurisdiction—not to whether the exchange actually affected wholesale sales. And when the Commission asserted jurisdiction over resource adequacy issues, it did so because "resource adequacy can have a significant effect on wholesale rates and service"—and did not require a case-by-case analysis to determine whether resource adequacy actually affected rates and service. *PJM Interconnection, LLC*, 119 FERC ¶ 61,318 at P 40.

entities to report individual wash trades and book-outs even though, when the offsetting pairs are aggregated together, they may result in no net obligations.

B. The Commission Has Authority To Penalize Chen Individually

Chen argues that "the Commission has no authority to penalize individuals like Alan Chen."[293] He contends that use of the term "entity" in section 222(a) means that the statute "does not include natural persons."[294] He then cites a variety of sources, including Black's Law Dictionary, for the proposition that "entity" does not refer to individuals.[295] As Chen recognizes, the Commission already ruled on this issue in Order No. 670 in which the Commission stated (at P 18, citations omitted) that

> "Any entity" is a deliberately inclusive term. Congress could have used the existing defined terms in the NGA and FPA of "person," "natural-gas company," or "electric utility," but instead chose to use a broader term without providing a specific definition. Thus, the Commission interprets "any entity" to include any person or form of organization, regardless of its legal status, function or activities.

The Commission has recently affirmed this in its orders assessing penalties in cases in which substantially the same arguments were presented.[296] There is no reason for the Commission to depart from its reasonable determination in Order No. 670 that the word "entity" encompasses natural as well as legal persons.

V. The Proposed Penalties Are Reasonable

Chen and Powhatan assert that the proposed penalties are unreasonable. Both argue that their trades caused no harm, and that the Commission should not impose penalties on a joint and several basis. Chen additionally argues that the penalties against him should be significantly reduced because he took steps to remedy the violation by

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[293] Chen Answer at 64-66.

[294] Chen Answer at 64.

[295] Chen Answer at 64-66.

[296] *Barclays Bank PLC et al.*, 144 FERC ¶ 61,041, at P 113 (2013), and *Richard Silkman*, 144 FERC ¶ 61,164, at P 73 (2013).

stopping his trading when the Market Monitor asked. None of these arguments has any merit.

A. Respondents' Conduct Was Serious and Caused Significant Harm

Respondents argue that their violations were not serious because they caused no harm.[297] In particular, Respondents point to the Commission's statement in the *Black Oak* proceeding that "no party is entitled to receive any particular amounts" of MLSA.[298] This reflects a misunderstanding of the Commission's analysis.

The question of entitlement to the MLSA arose in the context of the Commission's 2006 decision approving PJM's proposed tariff change to implement the marginal loss method for allocating transmission line losses.[299] In that order, the Commission noted that "a method needs to be determined for disbursing the over collected amounts. Customers, however, are not entitled to receive any particular amounts through disbursement of the over collections, since the price they are paying (based on marginal losses) is the correct marginal cost for the energy they are purchasing."[300] That meant that, as an initial matter, PJM had significant flexibility in determining how best to distribute the MLSA. But that did not mean that PJM had unlimited discretion in selecting a distribution method. PJM's methodology was bounded by the terms of the FPA, which forbids selecting allocation methods that are discriminatory and unduly preferential. And that is the context in which financial marketers brought a section 205 proceeding to challenge PJM's exclusion of financial trades from MLSA, and in which the Commission repeated its statement in the *Black Oak* proceeding that no entity was "entitled" to the MLSA.[301]

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[297] Chen Answer at 67; Powhatan Answer at 47-48.

[298] *See* Powhatan Answer at 48 (quoting *Black Oak Energy, LLC*, 125 FERC ¶ 61,042, at P 12).

[299] *Atlantic City Elec. Co. v. PJM Interconnection, LLC*, 115 FERC ¶ 61,132 (2006) (2006 Order).

[300] 2006 Order at P 24.

[301] *Black Oak Energy, et al.*, 122 FERC ¶ 61,208, at PP 46, 48 (2008); *Black Oak Energy, et al.*, 125 FERC ¶ 61,042, at P 12 (2008).

There is a difference between enjoying significant discretion in selecting a method of distribution, and fairly applying that methodology *once it is approved*. Whatever PJM's flexibility in selecting a methodology might have been, entities had a right to their appropriate share of that money once a method was settled upon. As the Staff Report described, Respondents violated the Commission's Anti-Manipulation Rule by entering into sham transactions with the purpose and effect of establishing a fraudulent claim on MLSA. PJM was unaware that Respondents were artificially inflating their trading volumes in order to qualify for a larger share of MLSA, and therefore unwittingly distributed to Respondents an incorrect share of MLSA. Since MLSA represents a single pot of money (per hour), by convincing PJM to allocate wrongful amounts of MLSA under false pretenses, Respondents deprived other market participants of their rightful share.

Every dollar of MLSA that Respondents obtained under false pretenses harmed the market. At staff's request, PJM prepared a list of market participants who were wrongfully deprived of their fair share of MLSA, and that list includes a preliminary calculation of how much each participant should have received but for Respondents' manipulation. According to PJM's analysis, nearly 400 companies were deprived of a total of over $10 million of their proper share of MLSA as a result of Respondents' manipulative trading. In our Answer in Opposition to Expedited Motion for Two-Week Extension of Time (Jan. 29, 2015), staff listed (at 10) some of the largest victims of Respondents' manipulation. The most significant victims were utilities serving large customer bases across PJM, including Appalachian Power (ca. $1.45 million), which serves southern West Virginia, southwest Virginia, and eastern Tennessee; Dominion Virginia Power (ca. $1.147 million), which serves large parts of Virginia between the Shenandoah Valley and Tidewater; Commonwealth Edison (ca. $656,000), serving Chicago and northern Illinois; and PECO Energy (ca. $570,000), serving southeastern Pennsylvania, including Philadelphia. These victims alone were deprived of approximately $3.5 million.

The amount of diverted MLSA is not the only measure of market harm in this matter. As discussed above, to effectuate their scheme, the Respondents had to reserve enormous amounts of transmission. By tying up so much transmission, they risked effectively "crowding out" other market participants who needed to reserve transmission to execute physical and UTC trades in the Day-Ahead market.

In a recent press release that was posted after the Staff Report was issued and directed at PJM for producing the MLSA analysis pursuant to staff's request, Powhatan admitted that its conduct harmed the market. Declaring that "PJM should thank us for identifying the goose that was laying these golden eggs," Powhatan contended that their scheme helped the market because, by being caught, they prevented it from recurring in the future—thereby ensuring that MLSA was not diverted from its rightful recipients and that UTC traders did not continue to "take transmission service out of the system."[302]

In short, Respondents' violations were serious by any measure. By placing millions of MWh of bogus trades, they caused PJM to redirect to themselves approximately $10 million from the entities to whom it rightfully belonged. And by reserving millions of MWh of transmission to effectuate their trades, their hoarding impeded other market participants from executing physical and UTC transactions. There is no reason to reduce Respondents' penalties using the "seriousness" factor of section 316A of the FPA.

B. Chen Did Not "Remedy" His Violation

Chen raises an additional issue that his penalties should be reduced on the "remedy" factor of section 316A of the FPA.[303] He asserts that he "did not 'remedy the violation' prior to being contacted by the market monitor because he did not and does not

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[302] http://ferclitigation.com/wp-content/uploads/Powhatan-Press-Release-02-10-15.pdf. (emphasis supplied) (stating that PJM should "quantify how much money the big utilities would have 'lost' the last five years had PJM continued to pay UTC traders to take transmission service out of the system. It will show the big utilities are better today, in part, because of Alan's trading").

[303] Chen Answer at 67-68.

think that was a violation. But when the market monitor raised concerns, he stopped and he did so 'in a timely manner.'"[304]

The fact that Chen stopped when asked to do so does not mitigate his culpability—it merely means he is not quite as culpable as a trader who continues trading after being warned to stop.[305] That is already accounted for in staff's proposed penalties. Moreover, the allegation that "no one ever told him what he could, and could not, do to respond to the direct incentives created by PJM's allocation of loss credits to up-to congestion trades"[306] does not relieve him of responsibility for his own actions. Chen is sophisticated and has long experience trading in heavily-regulated power markets. His personal and professional history assuredly made him aware that gaming the rules was legally risky.[307]

Moreover, Chen knew this particular scheme was of questionable legality: he and Gates discussed the likelihood that their plan to game PJM would be stopped when it was discovered and that they might be forced to return their unjust MLSA payments. He certainly knew—as did the Gates brothers—that his bidding technique had no "value" other than as a means to collect MLSA. Yet he decided to push forward with this scheme heedless of the consequences. The profits were so great that he decided to covertly start his own company to capture even more of the profits for himself. As with the Powhatan

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[304] Chen Answer at 68.

[305] Strangely, one of Respondents' consultants suggests that a trader knowingly engaged in manipulation would continue even after being caught. Spatt at ¶ 3.

[306] Chen Answer at 68.

[307] Although Chen's Answer contends that it is a "cheap shot" for the Staff Report to note that Chen worked at Enron Net Works during the Western Energy Crisis, (Chen Answer at 29 n.64, citing Staff Report at 3 n.3), in this context it is clearly relevant: It is beyond belief to suppose that Chen would have been unaware of the Death Star strategy or the Commission's unfavorable view of it, despite working at an Enron company during the Western Energy Crisis and then moving in that company to UBS Warburg along with Enron Power Marketing, Inc., whose traders devised and implemented the Death Star strategy among others. If anything, Respondents compare *unfavorably* with Enron's traders because at the time they executed their trades, the Enron traders did not have the benefit of the Commission's Enron-related precedent to clarify what sorts of trading practices are impermissible. Respondents have no such excuse.

investors, this was an opportunity to get rich quickly before the rules could be fixed, and Chen showed no compunction in pursuing it.

Had Chen reached out to PJM or to the Market Monitor before he started the scheme—or even after he had begun to make his round trip trades—he might be in a position to argue that he had tried to remedy his violation. But Chen did no such thing. He willfully engaged in market manipulation and did nothing to remedy it.

In the wake of the Western Energy Crisis, Congress amended the FPA to create powerful deterrence against market manipulation because the costs to society were so enormous. Chen was not so deterred, and he deserves to pay the penalties that Congress intended.

C. Joint and Several Liability

Respondents also assert that the Commission should not make them jointly and severally liable for their penalties. Chen suggests that the Commission somehow rejected the joint-and-several liability proposal because it did not repeat the Staff Report's words verbatim in the Order to Show Cause.[308] That simply has no merit. Respondents then cite to a footnote in the Commission's decision in *San Diego Gas* for the proposition that it should not make them jointly and severally liable.[309] But that decision does not militate against finding them jointly and severally liable here, and there are other sound reasons for imposing joint and several liability here as well.

San Diego Gas does not stand for the proposition that the Commission may *not* make penalties jointly and severally liable. In fact, in that order the Commission was addressing an issue of refund liability, not penalties, and the Commission in fact decided to make certain parties jointly and severally liable for those refunds except for a subset of transactions for which a *pro rata* allocation was deemed appropriate.[310] The Commission

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[308] Chen Answer at 68-69.

[309] Chen Answer at 69, citing *San Diego Gas & Elec. Co. v. Sellers of Energy and Ancillary Servs.*, 105 FERC ¶ 61,066, at P 170 n.101 (2003); Powhatan Answer at 47 n.19.

[310] *San Diego Gas & Elec. Co., et al.*, 105 FERC ¶ 61,066, at P 170 (2003).

correctly noted that joint and several liability typically applies when injuries cannot be apportioned among the defendants.

The Commission's analysis in that order draws on traditional tort law principles, and those principles support the application of joint and several liability here. Congress "legislates against a legal background of ordinary tort-related" principles.[311] According to the Restatement (Third) of Torts: Apportionment of Liability § 12 (at p. 110 (2007)): "Each person who commits a tort that requires intent is jointly and severally liable for any indivisible injury legally caused by the tortious conduct." The purpose of joint and several liability is to "ensure[] that the plaintiff will be able to recover the full amount of damages from some, if not all, participants."[312] The "rule of joint and several liability" is that "each member of a conspiracy is liable for all damages caused by the conspiracy's entire output."[313] Joint and several liability also applies to ensure that defendants acting in concert are liable for the entire amount of penalties as well.[314] And such liability applies to prevent entities from avoiding penalties by transferring assets to other persons—even to persons who did not themselves participate in the underlying violations.[315]

Joint and several liability is amply supported here. The injuries Respondents inflicted on the market arose from the same scheme and are thus indivisible. In addition, to allow the entities to escape liability because their assets have been drained would be to dilute the deterrence that Congress plainly intended by providing for civil penalties of up

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[311] *Meyer v. Holley*, 537 U.S. 280, 285 (2003).

[312] *Texas Indust. Inc. v. Radcliff Materials Inc.*, 451 U.S. 630, 646 (1981).

[313] *Paper Sys. Inc. v. Nippon Paper Indust. Co., Ltd.*, 281 F.3d 629, 632 (7th Cir. 2002).

[314] *Burlington Indus. v. Milliken & Co.*, 690 F.2d 380, 390-94 (4th Cir. 1982) (joint and several liability applies to treble-damage penalties under antitrust laws).

[315] *See SEC v. J.W. Barclay & Co., Inc.*, 442 F.3d 834, 845 (3d Cir. 2006) (if a firm is unable to pay a full penalty because assets have been transferred, then "the deterrent effects of civil penalties arising under the Exchange Act would be diluted" in the absence of joint and several liability).

to $1 million per day per violation. Here, Chen has already indicated that he is likely to declare bankruptcy, which raises the possibility that the Respondents may be able to avoid some of the penalties assessed against them absent joint and several liability.[316] Market participants harmed by Respondents' conduct should be reimbursed to the greatest possible extent, and civil penalties should be given greater deterrent effect by holding the companies jointly and severally liable. Providing for joint and several liability would provide the Commission an additional avenue for ensuring that the full amount of penalties and disgorgement assessed against Respondents can and will be collected.

Staff proposed[317] three forms of joint and several liability to account for the fact that these schemes involved overlapping entities: *first*, that Chen/HEEP/Powhatan should be jointly and severally liable for disgorgement of unjust profits accruing to Powhatan; *second*, that Powhatan and HEEP should be jointly and severally liable for the penalties assessed to each of them; and *third*, that Chen/HEEP, and CU Fund should be jointly and severally liable for disgorgement of unjust profits accruing to HEEP and CU Fund. Staff submits that this would create the most equitable and appropriate result. Accordingly, the Commission should deny Respondents' request.

VI. Conclusion

For the reasons set forth in the Staff Report and in this Reply, the Commission should issue an order requiring disgorgement with interest of unjust profits, imposing civil penalties in the amounts set forth in the Order to Show Cause and holding Chen,

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[316] Chen Answer at 68. If penalties are assessed against Powhatan, the Commission would be able to pursue collection actions against Powhatan's investors in the event that the company's assets have been drained. Though the record does not reflect Powhatan's current financial situation, Gates evinced an intention to bankrupt the firm in order to avoid its liabilities if he were unable to force Chen to pay for them. *See* Email from Kevin Gates to Richard Gates (Mar. 21, 2010 at 7:55 AM) (POW00007990) ("[Chen] could bankrupt his company so that he doesn't pay us. If so, we'd bankrupt our company and not pay PJM").

[317] Staff Report at 82-83.

HEEP, and Powhatan jointly and severally liable for the disgorgement amounts owed by HEEP and Powhatan, holding HEEP and Powhatan jointly and severally liable for the penalties assessed against them, and holding Chen and CU Fund jointly and severally liable for the amounts owed by CU Fund.

Respectfully submitted,

/s/

_____

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Dated: March 3, 2015

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding, in accordance with the requirements set forth in Rule 2010 of the Federal Energy Regulatory Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.2010 (2014).

/s/ Vicki L. Braun

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Dated: March 3, 2015

Attachment A

(Exhibit Nos. 4, 5, and 6 to the

July 20, 2011 Examination of Houlian “Alan” Chen)

Exhibit __ - CU Fund Trades

	A	B	C	D	E	F	G	H	I	J	K	L
1	CU FUND											
2	Category	UTC Path	Trade Activity Period	Cleared UTC Volume (MWh)	UTC Revenues ($)		Ancillary Charges ($)	Profit (without TLC) ($)	"Paired" Profit (without TLC) ($)	TLC ($)	Profit (with TLC) ($)	"Paired" Profit (with TLC) ($)
3	A-1	COMED-MISO	7/17/10-8/3/10	571,000	993,900	0	117,621	876,279	(299,725)	0	876,279	483,253
4	A-1	MISO-COMED	7/17/10-8/3/10	571,000	(993,900)	64,484	117,620	(1,176,003)		782,978	(393,025)	
5	A-2	COOK-MISO	7/17/10-8/3/10	160,100	338,099	0	32,950	305,150	(84,652)	0	305,150	131,573
6	A-2	MISO-COOK	7/17/10-8/3/10	160,100	(338,099)	18,753	32,949	(389,802)		216,225	(173,577)	
7	A-3	DAY-MISO	7/17/10-8/3/10	569,900	1,129,764	0	117,397	1,012,366	(319,189)	0	1,012,366	465,753
8	A-3	MISO-DAY	7/17/10-8/3/10	569,900	(1,129,764)	84,397	117,395	(1,331,556)		784,943	(546,613)	
9	Sub-Total A			2,602,000	0	167,634	535,932	(703,566)	(703,566)	1,784,145	1,080,579	1,080,579
10	B-1	EAST BEND 2-MISO	7/18/10-8/3/10	43,200	67,909	0	8,977	58,932	(27,420)	0	58,932	27,249
11	B-1	MISO-MIAMI FORT 7	7/18/10-8/3/10	43,200	(69,615)	7,761	8,975	(86,352)		54,669	(31,683)	
12	Sub-Total B			86,400	(1,706)	7,761	17,952	(27,420)	(27,420)	54,669	27,249	27,249
13	**GRAND TOTAL**			**2,688,400**	**(1,706)**	**175,395**	**553,884**	**(730,985)**	**(730,985)**	**1,838,814**	**1,107,828**	**1,107,828**
14	Source: PJM's data response (Bates: 040077, 04040)											
15												
16	Notes:											
17	(1) TLC stands for Transmission Loss Credits											
18	(2) Ancillary Charges include Market Support Charges, MMU Charges, AC2 Charges, Black Start Service Charges, and Reactive Power Service Charges											
19	(3) Columns or rows that show totals may not match the sum of individual figures due to rounding.											

Chen
EXHIBIT NO. 4
KY 7/2011

Exhibit _ - Powhatan Trades

	A	B	C	D	E	F	G	H	I	J	K	L
1	POWHATAN											
2	Category	UTC Path	Trade Activity Period	Cleared UTC Volume (MWh)		OASIS Charges ($)	Ancillary Charges ($)	Profit (without TLC) ($)	"Paired" Profit (without TLC) ($)	TLC ($)	Profit (with TLC) ($)	"Paired" Profit (with TLC) ($)
3	A-1	MISO-COOK	6/19/10 - 7/17/10	549,400	273,350	110,434	116,261	46,655	(342,955)	656,639	703,294	313,684
4	A-1	COOK-MISO	6/19/10 - 7/17/10	549,400	(273,350)	0	116,261	(389,610)		0	(389,610)	
5	A-2	MISO-ROCKPORT	6/23/10 - 7/17/10	347,000	186,843	82,195	72,549	32,099	(227,293)	428,641	460,740	201,348
6	A-2	ROCKPORT-MISO	6/23/10 - 7/17/10	347,000	(186,843)	0	72,549	(259,392)		0	(259,392)	
7	A-3	MISO-DAY	6/19/10 - 7/20/10	495,600	825,479	127,775	105,802	591,902	(339,380)	542,253	1,134,154	202,873
8	A-3	DAY-MISO	6/19/10 - 7/20/10	495,600	(825,479)	0	105,802	(931,281)		0	(931,281)	
9	A-4	MISO-YUKON	7/5/2010	1,600	54,924	1,072	327	53,526	(1,726)	2,380	55,906	654
10	A-4	YUKON-MISO	7/5/2010	1,600	(54,924)	0	327	(55,251)		0	(55,251)	
11	A-5	MISO-COMED	6/2/10 - 8/3/10	2,502,600	1,785,425	706,032	527,055	552,338	(1,761,480)	2,979,176	3,531,514	1,217,696
12	A-5	COMED-MISO	6/2/10 - 8/3/10	2,502,600	(1,785,425)	0	528,393	(2,313,818)		0	(2,313,818)	
13	A-6	MISO-AEP	6/2/10 - 6/20/10	283,200	43,389	71,786	61,519	(89,915)	(194,823)	284,886	194,971	90,063
14	A-6	AEP-MISO	6/2/10 - 6/20/10	283,200	(43,389)	0	61,519	(104,908)		0	(104,908)	
15	Sub-Total A			8,358,800	0	1,099,294	1,768,363	(2,867,657)	(2,867,657)	4,893,975	2,026,318	2,026,318
16	B-1	MISO-MIAMI FORT 7	5/29/10 - 6/21/10	348,000	341,373	90,482	76,051	174,840	(248,514)	328,456	503,295	79,941
17	B-1	EAST BEND 2-MISO	5/29/10 - 6/21/10	348,000	(347,303)	0	76,051	(423,354)		0	(423,354)	
18	B-2	MISO-GREENLAND GAP	5/29/10 - 6/8/10	59,400	175,096	20,516	13,245	141,335	(41,528)	45,114	186,449	3,586
19	B-2	MT STORM-MISO	5/29/10 - 6/8/10	59,400	(169,618)	0	13,245	(182,863)		0	(182,863)	
20	Sub-Total B			814,800	(452)	110,998	178,592	(290,042)	(290,042)	373,570	83,528	83,528
21	C-1	MISO-COOK	6/22/10 - 8/3/10	896,400	(718,686)	208,692	185,641	(1,113,019)	(829,513)	1,094,913	(18,106)	265,400
22	C-1	COOK-MISO	6/22/10 - 8/3/10	564,200	401,730	0	118,224	283,507		0	283,507	
23	C-2	MISO-ROCKPORT	7/1/10 - 7/26/10	353,800	(169,616)	77,619	72,251	(319,486)	(141,921)	464,361	144,875	322,440
24	C-2	ROCKPORT-MISO	7/1/10 - 7/26/10	549,400	289,760	0	112,195	177,565		0	177,565	
25	C-3	MISO-DAY	6/1/10 - 8/3/10	1,817,200	(360,288)	451,125	381,872	(1,193,285)	(1,255,133)	2,238,454	1,045,169	983,320
26	C-3	DAY-MISO	6/1/10 - 8/3/10	1,590,400	272,510	0	334,359	(61,849)		0	(61,849)	
27	C-4	MISO-YUKON	6/29/10 - 7/7/10	9,600	77,325	2,808	2,023	72,494	32,820	14,951	87,444	47,771
28	C-4	YUKON-MISO	6/29/10 - 7/7/10	4,800	(38,662)	0	1,012	(39,674)		0	(39,674)	
29	C-5	MISO-PENELEC	6/29/2010	1,600	(10,285)	134	348	(10,767)	19,046	2,233	(8,534)	21,279
30	C-5	PENELEC-MISO	6/29/2010	4,800	30,855	0	1,043	29,813		0	29,813	
31	C-6	MISO-APS	6/29/2010	4,800	(13,739)	593	1,043	(15,375)	(11,142)	6,699	(8,676)	(4,444)
32	C-6	APS-MISO	6/29/2010	1,600	4,580	0	348	4,232		0	4,232	
33	C-7	NYIS-PSEG	6/24/2010	1,680	20,656	804	365	19,487	8,802	3,246	22,734	13,671
34	C-7	PSEG-NYIS	6/24/2010	840	(10,328)	175	183	(10,686)		1,623	(9,062)	
35	C-8	NYIS-LEONIA 230 T-1	6/24/2010	560	4,113	295	122	3,697	1,539	1,082	4,779	3,162
36	C-8	LEONIA 230 T-1-NYIS	6/24/2010	280	(2,057)	40	61	(2,158)		541	(1,617)	
37	C-9	NYIS-MARION	6/24/2010	1,120	6,801	590	243	5,968	2,366	2,164	8,133	5,612
38	C-9	MARION-NYIS	6/24/2010	560	(3,401)	80	122	(3,603)		1,082	(2,521)	
39	Sub-Total C			5,803,640	(218,730)	742,954	1,211,453	(2,173,137)	(2,173,137)	3,831,349	1,658,212	1,658,212
40	D-1	MISO-GREENLAND GAP	5/30/2010	2,928	(142,553)	0	672	(143,224)	(174,566)	3,404	(139,820)	(171,162)
41	D-1	MT STORM-MISO	5/30/2010	3,000	(30,667)	0	674	(31,342)		0	(31,342)	
42	Sub-Total D			5,928	(173,220)	0	1,346	(174,566)	(174,566)	3,404	(171,162)	(171,162)
43	**GRAND TOTAL**			**14,983,168**	**(392,401)**	**1,953,246**	**3,159,755**	**(5,505,402)**	**(5,505,402)**	**9,102,298**	**3,596,896**	**3,596,896**
44	Source: PJM's data response (Bates: 040081, 04045)											
45												
46	Notes:											
47	(1) TLC stands for Transmission Loss Credits											
48	(2) Ancillary Charges include Market Support Charges, MMU Charges, AC2 Charges, Black Start Service Charges, and Reactive Power Service Charges											
49	(3) Columns or rows that show totals may not match the sum of individual figures due to rounding.											

Chen
EXHIBIT NO. 5
KY 7/20/11

Exhibit __ - HEEP Fund Trades

	A	B	C	D	E	F	G	H	I	J	K	L
1						HEEP FUND						
2	Category	UTC Path	Trade Activity Period	Cleared UTC Volume (MWh)	UTC Revenues ($)	OASIS Charges ($)	Ancillary Charges ($)	Profit (without TLC) ($)	"Paired" Profit (without TLC) ($)	TLC ($)	Profit (with TLC) ($)	"Paired" Profit (with TLC) ($)
3	A-1	MISO-COOK	6/19/10 - 7/17/10	27,520	13,354	5,522	5,826	2,006	(17,173)	32,870	34,876	15,897
4	A-1	COOK-MISO	6/19/10 - 7/17/10	27,520	(13,354)	0	5,825	(19,179)		0	(19,179)	
5	A-2	MISO-ROCKPORT	6/23/10 - 7/17/10	17,350	9,342	4,110	3,629	1,604	(11,367)	21,432	23,036	10,065
6	A-2	ROCKPORT-MISO	6/23/10 - 7/17/10	17,350	(9,342)	0	3,628	(12,971)		0	(12,971)	
7	A-3	MISO-DAY	6/19/10 - 7/20/10	24,495	39,548	6,198	5,229	28,122	(16,655)	26,935	55,057	10,280
8	A-3	DAY-MISO	6/19/10 - 7/20/10	24,495	(39,548)	0	5,229	(44,777)		0	(44,777)	
9	A-4	MISO-YUKON	7/5/2010	80	2,746	54	16	2,676	(86)	119	2,795	33
10	A-4	YUKON-MISO	7/5/2010	80	(2,746)	0	16	(2,763)		0	(2,763)	
11	A-5	MISO-COMED	6/2/10 - 8/3/10	125,130	89,271	35,302	26,428	27,542	(88,156)	148,959	176,501	60,802
12	A-5	COMED-MISO	6/2/10 - 8/3/10	125,130	(89,271)	0	26,427	(115,698)		0	(115,698)	
13	A-6	MISO-AEP	6/2/10 - 6/20/10	14,160	2,169	3,589	3,077	(4,497)	(9,744)	14,244	9,747	4,501
14	A-6	AEP-MISO	6/2/10 - 6/20/10	14,160	(2,169)	0	3,077	(5,247)		0	(5,247)	
15	Sub-Total A			417,470	0	54,774	88,408	(143,182)	(143,182)	244,559	101,377	101,377
16	B-1	MISO-MIAMI FORT 7	4/1/10 - 6/21/10	43,350	81,250	13,549	9,666	58,036	(31,177)	39,516	97,552	8,339
17	B-1	EAST BEND 2-MISO	4/1/10 - 6/21/10	43,350	(79,547)	0	9,666	(89,213)		0	(89,213)	
18	B-2	OVEC-MIAMI FORT 7	3/3/10 - 3/13/10	12,600	(260)	7,926	2,828	(11,013)	(21,770)	9,858	(1,155)	(2,054)
19	B-2	EAST BEND 2-OVEC	3/3/10 - 3/13/10	12,600	(198)	7,731	2,828	(10,757)		9,858	(899)	
20	B-3	NYIS-MIAMI FORT 7	3/2/2010	2,400	3,129	1,542	539	1,048	(3,385)	1,862	2,910	338
21	B-3	EAST BEND 2-NYIS	3/2/2010	2,400	(3,199)	696	539	(4,433)		1,862	(2,572)	
22	B-4	MISO-GREENLAND GAP	2/1/10 - 6/8/10	155,160	(168,994)	53,770	36,112	(258,877)	(110,444)	128,451	(130,425)	18,007
23	B-4	MT STORM-MISO	2/1/10 - 6/8/10	155,160	184,549	0	36,117	148,432		0	148,432	
24	Sub-Total B			427,020	16,731	85,214	98,292	(166,776)	(166,776)	191,406	24,630	24,630
25	C-1	MISO-COOK	6/22/10 - 8/3/10	44,770	(35,621)	10,435	9,275	(55,330)	(41,460)	54,708	(622)	13,248
26	C-1	COOK-MISO	6/22/10 - 8/3/10	28,160	19,773	0	5,903	13,870		0	13,870	
27	C-2	MISO-ROCKPORT	7/1/10 - 7/26/10	17,690	(8,481)	3,820	3,614	(15,914)	(7,038)	23,218	7,304	16,180
28	C-2	ROCKPORT-MISO	7/1/10 - 7/26/10	27,470	14,488	0	5,612	8,876		0	8,876	
29	C-3	MISO-DAY	6/1/10 - 8/3/10	91,145	(16,289)	22,747	19,166	(58,202)	(63,088)	112,100	53,898	49,011
30	C-3	DAY-MISO	6/1/10 - 8/3/10	79,805	11,900	0	16,786	(4,886)		0	(4,886)	
31	C-4	MISO-YUKON	6/29/10 - 7/7/10	480	3,866	140	101	3,625	1,641	748	4,372	2,388
32	C-4	YUKON-MISO	6/29/10 - 7/7/10	240	(1,933)	0	51	(1,984)		0	(1,984)	
33	C-5	MISO-PENELEC	6/29/2010	60	(514)	7	17	(538)	952	112	(427)	1,064
34	C-5	PENELEC-MISO	6/29/2010	240	1,543	0	52	1,491		0	1,491	
35	C-6	MISO-APS	6/29/2010	225	(607)	30	49	(685)	(499)	320	(365)	(179)
36	C-6	APS-MISO	6/29/2010	75	202	0	16	186		0	186	
37	C-7	NYIS-PSEG	6/24/2010	84	1,033	40	18	975	440	162	1,137	684
38	C-7	PSEG-NYIS	6/24/2010	42	(516)	9	9	(534)		81	(453)	
39	C-8	NYIS-LEONIA 230 T-1	6/24/2010	28	206	15	6	185	77	54	239	158
40	C-8	LEONIA 230 T-1-NYIS	6/24/2010	14	(103)	2	3	(108)		27	(81)	
41	C-9	NYIS-MARION	6/24/2010	56	340	29	12	299	118	108	407	281
42	C-9	MARION-NYIS	6/24/2010	28	(170)	4	6	(180)		54	(126)	
43	Sub-Total C			290,632	(10,883)	37,278	60,697	(108,857)	(108,857)	191,692	82,835	82,835
44	D-1	MISO-GREENLAND GAP	3/1/10 - 5/30/10	57,297	(30,560)	22,616	13,404	(66,580)	(50,582)	47,832	(18,748)	(2,750)
45	D-1	MT STORM-MISO	3/1/10 - 5/30/10	63,160	30,738	0	14,740	15,998		0	15,998	
46	Sub-Total D			120,457	178	22,616	28,144	(50,582)	(50,582)	47,832	(2,750)	(2,750)
47	GRAND TOTAL			1,255,579	6,026	199,882	275,541	(469,396)	(469,396)	675,489	206,093	206,093
48	Source: PJM's data response (Bates: 04034, 04035, 04063, 040078-040080, 04041-04044)											
49												
50	Notes:											
51	(1) TLC stands for Transmission Loss Credits											
52	(2) Ancillary Charges include Market Support Charges, MMU Charges, AC2 Charges, Black Start Service Charges, and Reactive Power Service Charges											
53	(3) Columns or rows that show totals may not match the sum of individual figures due to rounding.											

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EXHIBIT NO. 6

KY 7/20/11