JS 44 (Rev. 12/12)

CIVIL COVER SHEET

3:15cv0452

The JS 44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. *(SEE INSTRUCTIONS ON NEXT PAGE OF THIS FORM.)*

I. (a) PLAINTIFFS

Federal Energy Regulatory Commission

(b) County of Residence of First Listed Plaintiff _____
(EXCEPT IN U.S. PLAINTIFF CASES)

(c) Attorneys *(Firm Name, Address, and Telephone Number)*

(See attachment)

DEFENDANTS

Powhatan Energy Fund, LLC, Houlian "Alan" Chen, HEEP Fund, Inc., CU Fund, Inc.

County of Residence of First Listed Defendant Henrico, Virginia
(IN U.S. PLAINTIFF CASES ONLY)

NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED.

Attorneys *(If Known)*

(See attachment)

II. BASIS OF JURISDICTION *(Place an "X" in One Box Only)*

- ☒ 1 U.S. Government Plaintiff
- ☐ 3 Federal Question *(U.S. Government Not a Party)*
- ☐ 2 U.S. Government Defendant
- ☐ 4 Diversity *(Indicate Citizenship of Parties in Item III)*

III. CITIZENSHIP OF PRINCIPAL PARTIES *(Place an "X" in One Box for Plaintiff and One Box for Defendant)*
(For Diversity Cases Only)

	PTF	DEF		PTF	DEF
Citizen of This State	☐ 1	☐ 1	Incorporated *or* Principal Place of Business In This State	☐ 4	☐ 4
Citizen of Another State	☐ 2	☐ 2	Incorporated *and* Principal Place of Business In Another State	☐ 5	☐ 5
Citizen or Subject of a Foreign Country	☐ 3	☐ 3	Foreign Nation	☐ 6	☐ 6

IV. NATURE OF SUIT *(Place an "X" in One Box Only)*

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- ☐ 120 Marine
- ☐ 130 Miller Act
- ☐ 140 Negotiable Instrument
- ☐ 150 Recovery of Overpayment & Enforcement of Judgment
- ☐ 151 Medicare Act
- ☐ 152 Recovery of Defaulted Student Loans (Excludes Veterans)
- ☐ 153 Recovery of Overpayment of Veteran's Benefits
- ☐ 160 Stockholders' Suits
- ☐ 190 Other Contract
- ☐ 195 Contract Product Liability
- ☐ 196 Franchise

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- ☐ 220 Foreclosure
- ☐ 230 Rent Lease & Ejectment
- ☐ 240 Torts to Land
- ☐ 245 Tort Product Liability
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PERSONAL INJURY
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- ☐ 315 Airplane Product Liability
- ☐ 320 Assault, Libel & Slander
- ☐ 330 Federal Employers' Liability
- ☐ 340 Marine
- ☐ 345 Marine Product Liability
- ☐ 350 Motor Vehicle
- ☐ 355 Motor Vehicle Product Liability
- ☐ 360 Other Personal Injury
- ☐ 362 Personal Injury - Medical Malpractice

PERSONAL INJURY
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- ☐ 367 Health Care/ Pharmaceutical Personal Injury Product Liability
- ☐ 368 Asbestos Personal Injury Product Liability

PERSONAL PROPERTY
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- ☐ 371 Truth in Lending
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- ☐ 446 Amer. w/Disabilities - Other
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- ☐ 510 Motions to Vacate Sentence
- ☐ 530 General
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- ☐ 862 Black Lung (923)
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- ☐ 864 SSID Title XVI
- ☐ 865 RSI (405(g))

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- ☐ 950 Constitutionality of State Statutes

V. ORIGIN *(Place an "X" in One Box Only)*

- ☒ 1 Original Proceeding
- ☐ 2 Removed from State Court
- ☐ 3 Remanded from Appellate Court
- ☐ 4 Reinstated or Reopened
- ☐ 5 Transferred from Another District *(specify)*
- ☐ 6 Multidistrict Litigation

VI. CAUSE OF ACTION

Cite the U.S. Civil Statute under which you are filing *(Do not cite jurisdictional statutes unless diversity)*:
16 U.S.C. Section 823b

Brief description of cause:
Request for Order Affirming Order Assessing Civil Penalty

VII. REQUESTED IN COMPLAINT:

☐ CHECK IF THIS IS A CLASS ACTION UNDER RULE 23, F.R.Cv.P.

DEMAND $ 34,518,784.00

CHECK YES only if demanded in complaint:
JURY DEMAND: ☒ Yes ☐ No

VIII. RELATED CASE(S) IF ANY

(See instructions): JUDGE _____ DOCKET NUMBER _____

DATE 07/31/2015

SIGNATURE OF ATTORNEY OF RECORD

FOR OFFICE USE ONLY

RECEIPT # _____ AMOUNT _____ APPLYING IFP _____ JUDGE _____ MAG. JUDGE _____

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UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
RICHMOND DIVISION

FEDERAL ENERGY REGULATORY COMMISSION,	)	
Petitioner,	)	Civil Action No. 3:15cv0452
v.	)	
POWHATAN ENERGY FUND, LLC, HOULIAN "ALAN" CHEN, HEEP FUND, INC., and CU FUND, INC.	)	**JURY TRIAL REQUESTED**
Respondents.	)	

PETITION FOR AN ORDER AFFIRMING THE FEDERAL ENERGY REGULATORY COMMISSION'S MAY 29, 2015 ORDER ASSESSING CIVIL PENALTIES AGAINST POWHATAN ENERGY FUND, LLC, HEEP FUND, INC., HOULIAN "ALAN" CHEN, AND CU FUND, INC.

Petitioner Federal Energy Regulatory Commission (FERC or Commission), pursuant to section 31(d) of the Federal Power Act (FPA), 16 U.S.C. § 823b (2012), petitions this Court for an Order Affirming the Commission's May 29, 2015 Order Assessing Civil Penalties, *Houlian Chen, Powhatan Energy Fund, LLC, HEEP Fund, LLC, CU Fund, Inc.*, 151 FERC ¶ 61,179 (2015) (the Order). The Commission's Order is attached as Exhibit 1.

SUMMARY OF THE ACTION

1. This is an action for enforcement of a Commission order assessing civil penalties against Respondents Powhatan Energy Fund, LLC, HEEP Fund, Inc., CU Fund, Inc., and against Respondent Houlian "Alan" Chen, who executed trades on behalf of Powhatan, HEEP Fund, and CU Fund between June 1 and August 3, 2010 (Manipulation Period).

2. In its Order, the Commission found that Respondents had manipulated the wholesale energy markets by implementing a scheme involving the execution of large volumes of offsetting trades – which the Commission found to be wash trades – for the purpose of capturing "excessive amounts of certain credit payments." Order at P 1.

3. The Commission's Order was issued on May 29, 2015, following a multi-year investigation and an adversarial show cause proceeding.

4. The Commission initiated its investigation in the summer of 2010, after PJM Interconnection, L.L.C. (PJM), the Regional Transmission Organization (RTO) responsible for operating the mid-Atlantic wholesale electric market, and PJM's Independent Market Monitor (IMM), responsible for overseeing the electricity marketplace in which the Respondents executed their trades, alerted the Commission to possible manipulative behavior in that market, i.e., that certain market participants – including Respondents – were reserving unusually large volumes of transmission in connection with financially-settled Up-To Congestion (UTC) trades "solely to inflate transaction volumes in order to receive an improper allocation of marginal loss surplus revenue." Order at P 27 (quoting Confidential Referral of Potential Violations of FERC Market Rule at 4 (Aug. 16, 2010) (PJM Referral)).

5. In the multi-year investigation that followed, the Commission's Office of Enforcement (Enforcement or staff) determined that Respondents designed and implemented a fraudulent trading scheme based on self-canceling financial transactions designed to eliminate market risk while capturing otherwise un-merited payment from PJM. These payments were known as the marginal loss surplus allocation or "MLSA." Contemporaneous emails uncovered in the investigation showed that Respondents understood these trades were otherwise unprofitable – that they "'would not touch'" some of the trades other than to capture credit payments from PJM

– and that they understood their scheme to be "'to make money by moving electricity around in a circle.'" Order at PP 45, 46 (quoting Email from Alan Chen to Kevin Gates (March 5, 2010, 9:37 PM) and Email from Kevin Gates to Alan Chen (Aug. 12, 2010, 4:18 PM), respectively). Specifically, the investigation determined that the scheme involved executing large volumes of offsetting trades between the same two points at the same time in order to zero out market risk and capture volume-based credits '"risk-free (almost to the point)."' *Id*. n.218 (quoting Email from Alan Chen to Kevin Gates (March 5, 2010, 9:37 PM)).

6. The investigation further determined that, through this scheme, Respondents extracted over $10 million in fraudulently obtained payments that would otherwise have been allocated to market participants engaged in bona fide transactions, such as Dominion Virginia Power. Order at P 68.

7. On December 17, 2014, the Commission issued an order directing Respondents to show cause why they should not be found to have violated section 222 of the FPA, 16 U.S.C. § 824v(a) (2012), and section 1c.2 of the Commission's Regulations, 18 C.F.R. § 1c.2 (2014) (Anti-Manipulation Rule). (Order to Show Cause, (together with Order Revising Show Cause Order issued December 18, 2014) is attached hereto as Exhibit 2.) A staff report ("Staff Report"), prepared by the Commission's Office of Enforcement investigative staff, which set forth the legal and factual basis for the Order to Show Cause, was attached to that order. Exhibit 2 Appx. A.

8. Issuance of the Order to Show Cause commenced an adversarial adjudicative proceeding, during which Respondents presented factual evidence and legal arguments directly to the Commission.

9. On January 12, 2015, pursuant to FPA section 31(d)(3), 16 U.S.C. § 823b(d)(3) (2012), Respondents elected to forgo an opportunity for an agency hearing before an administrative law judge pursuant to 5 U.S.C. § 554 (2012), and instead to have the Commission promptly assess a civil penalty in the absence of such a proceeding. The statute provides that if a respondent fails to pay an assessed penalty within 60 days, the Commission may seek affirmance of its penalty in federal district court.

10. On May 29, 2015, after examining the arguments submitted by all parties and after reviewing the extensive factual record, the Commission issued its Order Assessing Penalties. In the Order, the Commission concluded that Respondents "violated section 222 of the Federal Power Act (FPA) and section 1c.2 of the Commission's regulations, which prohibit energy market manipulation, through a scheme to engage in fraudulent Up-To Congestion (UTC) transactions in PJM Interconnection L.L.C.'s (PJM) energy markets to garner excessive amounts of certain credit payments to transmission customers." Order at P 1 (footnotes omitted). The Commission also determined that the trades constituted a wash trading scheme in violation of the Commission's prohibition of that practice. Order at P 6.

11. The Commission concluded that, "[i]n light of the seriousness of these violations, we find that it is appropriate to assess civil penalties pursuant to section 316A of the FPA [16 U.S.C. § 825o-1(b) (2012)] in the following amounts: $16,800,000 against Powhatan; $10,080,000 against CU Fund; $1,920,000 against HEEP; and $1,000,000 against Dr. Chen." Order at P 1.

12. Additionally, pursuant to section 309 of the FPA, 16 U.S.C. § 825h (2012), the Commission directed disgorgement of unjust profits plus applicable interest in the following amounts: $3,465,108 for Powhatan; $1,080,576 for CU Fund; and $173,100 for HEEP. Order at P 1.

13. The Order sets forth detailed analyses of the factual evidence, the legal arguments presented by both sides, and the applicable civil penalty under the FPA and the Commission's Penalty Guidelines.

14. The Commission found that

> [f]rom June 1 to August 3, 2010 (Manipulation Period), Respondents designed and implemented a fraudulent UTC trading scheme to receive excessive amounts of MLSA payments. To do this, Respondents intentionally placed a high-volume of 'round-trip' UTC trades that canceled each other out by placing the first leg of the trade from locations A to B, and simultaneously placing a second leg of equal volume from locations B to A. The contemporaneous evidence shows that Respondents artificially created these round-trip UTC trades solely to reserve transmission service to enable them to collect excessive MLSA payments during the Manipulation Period.

Order at P 3 (footnote omitted).

15. The Commission concluded, "based on the totality of the evidence" that Respondents' round-trip UTC trades

> operated as a course of business to defraud and a device, scheme, or artifice to defraud the PJM market and market participants . . . . The evidence demonstrates that Respondents placed high-volume round-trip UTC trades without regard to market fundamentals and with the intent to benefit not from the spread on UTC trades but solely from the MLSA payments, and we find those actions to constitute fraud. We also find that Respondents were engaged in wash trading, which the Commission has long recognized as fraudulent conduct. Moreover, we find that the Respondents had notice that the type of trading at issue here is fraudulent and violates FPA section 222 and our Anti-Manipulation Rule.

Id. P 51 (footnote omitted).

16. Applying its non-binding Penalty Guidelines to the facts of that proceeding, the Commission found the recommended penalties appropriate and imposed the penalties as recommended. *Id*. PP 149 – 187.

17. Under FPA section 31(d)(3)(B), 16 U.S.C. § 823b(d)(3)(B) (2012), this Court "shall have authority to review de novo the law and the facts involved, and shall have jurisdiction to enter a

judgment enforcing, modifying, and enforcing as so modified, or setting aside in whole or in part" the Commission's penalty assessment. The Respondents having failed to make payment within the 60 day time period set forth in the FPA, the Commission now respectfully brings this action to enforce the terms of the Order without modification.

JURISDICTION

18. This Court has subject matter jurisdiction over this action pursuant to FPA section 31(d)(3)(B), 16 U.S.C. § 823b(d)(3)(B) and 28 U.S.C. § 1331 (2012). This Court has personal jurisdiction over each of the Respondents pursuant to Fed. R. Civ. P. 4(k)(1)(C) in that FPA section 317, 16 U.S.C. § 825p (2012), provides for nationwide service of process and therefore satisfies this subdivision of Rule 4, which provides that "[s]erving a summons or filing a waiver of service establishes personal jurisdiction over a defendant . . . when authorized by a federal statute."

VENUE

19. Venue is also governed by FPA section 317, 16 U.S.C. § 825p, which provides that "[a]ny suit or action to enforce any liability or duty created by . . . this Act, or any rule, regulation, or order thereunder may be brought in [the district wherein any act or transaction constituting the violation occurred] or in the district wherein the defendant is an inhabitant."

20. Venue is established in this district as to all Respondents pursuant to the "any act or transaction constituting the violation" clause of § 825p because the Commission found that they engaged in an unlawful scheme to manipulate energy markets in the mid-Atlantic United States, including in this District, from June to August 2010. Respondents' unlawful scheme resulted in the misdirection and capture of over $10 million in PJM market payments, including approximately $1,147,087 that would otherwise have flowed to Dominion Virginia Power and

inured to the benefit of Dominion and its ratepayers, including ratepayers in this District. Order at P 68.

21. Furthermore, as to Chen, HEEP Fund, and Powhatan, venue is also established in this district based on the "any act or transaction" clause because they entered into an Advisory Agreement (Powhatan Advisory Agreement) pursuant to which Chen, through HEEP, placed the Powhatan trades that the Commission found to violate FPA § 222 and Rule 1c.2. Order at P 47. In the Powhatan Advisory Agreement, these Respondents stipulated that, in the event of a dispute arising out of that agreement, legal recourse would be made "only in the courts of the Commonwealth of Virginia, City of Richmond, or . . . in the United States District Court for the Eastern District of Virginia," and states that Powhatan and HEEP "waive any objection to venue laid therein." Prior to the Manipulation Period, Chen traded for two of Powhatan's predecessor companies, which were controlled by the same principals, and both of which maintained their principal places of business in the Richmond, Virginia area.

22. Powhatan is also an inhabitant of this District in that it maintains its principal place of business in Henrico, Virginia, within this District.

23. In addition to the basis applicable to all Respondents, CU Fund, which is incorporated and maintains its principal place of business in Texas, is venued in this District through Chen, who is its sole owner and lone employee. Order at n.415. Inasmuch as venue is established in this district as to Chen, it is necessarily established as to CU. Chen implemented a single scheme, not only through HEEP and on behalf of Powhatan, but also through and on behalf of CU Fund, which was controlled by, and operated for the sole benefit of, Chen.

PARTIES

Petitioner

24. FERC is an administrative agency of the United States, organized and existing pursuant to the FPA, 16 U.S.C. § 791a *et seq.* (2012).

25. FERC is an administrative agency with independent litigating authority. By statute, "[e]xcept as provided in section 518 of title 28, relating to litigation before the Supreme Court, attorneys designated by the Chairman of the Commission may appear for, and represent the Commission in, any civil action brought in connection with any function carried out by the Commission pursuant to this chapter or as otherwise authorized by law." 42 U.S.C. § 7171 (i) (2012).

Respondents

26. At all relevant times, Powhatan Energy Fund, LLC was a private investment fund organized as a Delaware corporation with its primary place of business in Henrico, Virginia. The managing member of Powhatan is LSE Capital Management, LLC, a Delaware corporation with its primary place of business in Henrico, Virginia. The sole member of LSE Capital Management, LLC is Lawrence S. Eiben (Eiben), a resident of Henrico, Virginia. At all relevant times, Eiben was the sole executive officer of Powhatan.

27. At all relevant times Houlian "Alan" Chen maintained his residence in The Woodlands, Texas. He incorporated both HEEP and CU in Texas and maintains their principal places of business there. He was the signatory to Advisory Agreements with both Powhatan and with its predecessor companies, pursuant to which he traded UTC in PJM, including the trades for Powhatan that are the basis for the civil penalties and disgorgement assessed by the Commission.

28. At all relevant times, HEEP Fund, Inc. was a private investment fund organized as a Texas corporation with its primary place of business in Texas. The sole shareholder and employee of HEEP Fund is Houlian "Alan" Chen, a resident of The Woodlands, Texas.

29. At all relevant times, CU Fund, Inc. was a private investment fund organized as a Texas corporation with its primary place of business in Texas. The sole owner and employee of CU Fund is Houlian "Alan" Chen, a resident of The Woodlands, Texas.

THE COMMISSION'S ANTI-MANIPULATION AUTHORITY

30. In the wake of manipulative schemes in the western U.S. electricity markets by Enron and others, Congress, through the Energy Policy Act of 2005, amended the FPA to give the Commission broad authority to prohibit market manipulation. In relevant part, FPA section 222, 16 U.S.C. § 824v(a), makes it "unlawful for any entity . . . directly or indirectly, to use or employ, in connection with the purchase or sale of electric energy . . . any manipulative or deceptive device or contrivance . . . in contravention of such rules and regulations as the Commission may prescribe as necessary or appropriate in the public interest or for the protection of electric ratepayers."

31. The Commission implemented this statute in 2006 by promulgating the Anti-Manipulation Rule, which prohibits an entity from: (1) (a) using a fraudulent device, scheme, or artifice, or (b) making a material misrepresentation or a material omission as to which there is a duty to speak under a Commission-filed tariff, Commission order, rule, or regulation, or (c) engaging in any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity, (2) with the requisite scienter, (3) in connection with the purchase or sale of electricity subject to the jurisdiction of the Commission. 18 C.F.R. § 1c.2 (Anti-Manipulation Rule). As the Commission noted in the Order, "Under the Anti-Manipulation Rule, fraud includes, but is not limited to, 'any action, transaction, or conspiracy for the purpose of impairing, obstructing, or defeating a well-functioning market.'" Order at P 35 (quoting

Prohibition of Energy Market Manipulation, Order No. 670, FERC Stats. & Regs. ¶ 31,202, at P 50 (2006)).

32. The Energy Policy Act of 2005 also provided the Commission with increased civil penalty authority for violations of Part II of the FPA or of "any rule or order issued thereunder." FPA section 316A, 16 U.S.C. § 825o-1, authorizes the Commission to assess civil penalties against violators of up to $1 million for each day that a violation occurs. The Commission has found that each separate transaction that constitutes a violation is subject to a $1 million per day penalty. Order at P 150 (citing *Barclays PLC, et al*., 144 FERC ¶ 61,041, at P 120 n.347 (2013); *see also Energy Transfer Partners, L.P*., 120 FERC ¶ 61,086, at P 69 (2007)). In assessing penalties, the Commission must consider '"the seriousness of the violation and the efforts of such person to remedy the violation in a timely manner."' Order at P 151 (quoting FPA section 316A, 16 U.S.C. § 825o-1). The Commission's imposition of civil penalties on organizations is also guided by its advisory Penalty Guidelines. *Revised Policy Statement on Penalty Guidelines*, 132 FERC ¶ 61,216 (2010).

BACKGROUND

The PJM Market & The UTC Product

33. PJM is a Regional Transmission Organization (RTO) that operates a 13-state wholesale organized electricity market stretching from Illinois to North Carolina, and including all of Virginia but a small portion of the southwestern part of the state. Order at P 15. More than 61 million people depend on electricity administered by PJM.

34. PJM uses market-based systems to provide electricity at the lowest possible cost consistent with maintaining the reliable operation of the grid. To send appropriate price signals, "[e]lectricity prices in PJM vary based on the specific location, or node, within the market."

Order at P 15. Since prices vary by location, market prices for energy at particular nodes are called "Locational Marginal Prices" (LMPs). As the Commission explained in the Order,

> Three components summed together form the LMP: (i) an energy price (which is the same at each node and represents the cost to serve the next increment of load (demand) at a pre-determined reference location); (ii) the cost of congestion (which varies at each node depending on the limitations of the transmission system to move power freely between constrained and non-constrained locations); and (iii) the cost of line losses . . . .

Id.

35. The Order notes that "PJM operates a dual settlement market, with both a day-ahead market and a real-time market." *Id*. P 16. In the day-ahead market, market participants engage in transactions involving energy that will flow through power lines the following day (a "day ahead" of the proposed flow date). In the day-ahead market, participants may make bids and offers to buy or sell energy – either physically or "virtually" – for the next day, specifying the quantity, price, location, and hour of delivery. As the Commission has previously noted, "the vast bulk of transactions occur" in the day-ahead market. *Black Oak Energy, LLC v. PJM Interconnection, L.L.C.*, 125 FERC ¶ 61,042, at P 41 (2008).

36. In the real-time market, market participants engage in transactions involving energy that will flow through power lines the same day. The real-time market is also referred to as a "Balancing Market," because one of its functions is to "balance" any deviations in supply and demand schedules created by PJM based on the day-ahead market transactions. Each LMP settles at a unique price in both the day-ahead and real-time markets, reflecting the combination of the three price components — energy, congestion, and line losses — applicable to that particular node. PJM provides the trading platforms and, with its IMM, oversees the trading activity.

37. The Commission has also authorized PJM and other organized markets to allow non-physical or "virtual" traders (also referred to as "arbitrageurs") to participate in wholesale electric markets because their participation will, in theory, "increase market liquidity, drive convergence between the day-ahead and real-time market, and provide vehicles for hedging." Order at P 17 (footnote omitted).[1] As the Commission noted,

> [w]hile virtual products carry no obligation to buy or sell physical power, they serve a direct role in day-ahead price formation as reflected in day-ahead LMPs. As such, virtual products [that are integrated into the organized market's pricing model] can: (1) be the price setting marginal factor in determining day-ahead LMPs; (2) affect day-ahead dispatch; and (3) affect other market participant positions.

Id. (footnote omitted).

38. With virtual transactions a purchase (or sale) at the day-ahead price is automatically sold (or purchased) at the real-time price. While virtual trades do not result in the physical delivery of power, they are entered into the day-ahead market settlement software and thus impact the rates paid for physical electricity.

39. This case concerns Respondents' trading of one of PJM's virtual products, called "Up-To Congestion" or "UTC." The name is derived from the fact that in entering into a UTC transaction, the trader specifies that it will pay "up to" a specified dollar amount (capped at $50) for delivery from a specified location ("node") of a specified quantity of energy to a specified location at a specified hour. If the market price calculated by PJM's pricing model is at or below the price specified by the person placing the transaction, the transaction will clear.

40. During and prior to the Manipulation Period, placing a UTC trade was a two-step process: As the first step, the trader would use PJM's Open Access Same Time Information

[1] The Commission explained in the Order that "Convergence in the PJM market is the reduction in the spread between day-ahead and real-time LMPs at a specific node." Order at n.26.

System (OASIS) to reserve some amount of transmission for the intended transaction. If transmission capacity was available, the trader would receive an OASIS reservation number, which enabled the trader, as the second step, to enter the transaction specifics – time of day, source and sink nodes (i.e., the pricing points),[2] volume, and the "up-to" price limit he was willing to pay – into a different PJM system. After the time period for entering transactions closed, PJM would establish the day-ahead prices at the nodes. For a trader's bid to be accepted (i.e., to "clear"), his bid had to equal or exceed the day-ahead price spread on the trader's specified path (i.e., the difference in day-ahead price between the source and sink nodes). If the bid cleared, then the profitability of the transaction would be determined by whether the price spread in the real-time market on the chosen path was higher or lower than it had been in the day-ahead market, that is, whether the trader had accurately predicted any change in congestion between the day-ahead and real-time.

41. The Commission approved the participation of virtual traders in its regulated markets because, in principle, the knowledge and acumen required to profit from arbitrage potentially benefited the market by contributing to price convergence and market liquidity, both of which promote market efficiency. Order at P 20.

42. The Commission had previously found that that UTCs were "integrated" into pricing and "dispatch" (scheduling generation units) models, i.e., PJM did not distinguish between virtual UTCs and physical transactions, so that a UTC could affect these functions in the same way as a physical transaction. *Id.* P 20.

[2] A "source" is the point of delivery of energy; a "sink" is the point of receipt. Energy flows from the "source" to the "sink." UTCs combine an offer to sell at the source LMP with a bid to buy at the sink LMP in the day-ahead market.

43. After reviewing the sworn testimony (which it cited throughout the Order) of Chen and Kevin Gates, the Powhatan investor to whom Chen reported on a daily basis, the Commission found that Messrs. Chen and Gates understood how arbitrage worked, and why the Commission permitted UTC transactions, "yet they intentionally placed fraudulent round-trip UTC trades that did not provide any benefit to the PJM market . . . and that on their own these round-trip trades would not generate a profit or a loss based on price spreads." *Id*. P 4; *see also* PP 38, 75, 78 (quoting Chen Test. Vol. I Tr. 31:14-18).

Marginal Loss Surplus and Its Allocation

44. As discussed above, one of the components of LMP is the cost of the megawatts of electricity that are lost as the energy is transmitted across the grid. This is called "line loss." As the Commission has observed, the more demand there is on the grid, the greater the number of megawatts will be lost in transmission. Order P 23 (citing *Atlantic City Elec. Co., et al. v. PJM Interconnection, L.L.C.*, 115 FERC ¶ 61,132, at PP 3, 5 (2006)). To ensure that customers pay the true cost of transmitting electricity to their particular location, the Commission required that the "line loss" component of the LMP reflect the marginal cost, rather than the average cost, of such losses, although it recognized that "because marginal costs of line losses are greater than average costs, PJM receives more payments [from purchasers of power] than necessary to compensate [generators] for actual line losses [i.e., the additional power they supply to make up for transmission-related losses], resulting in a surplus revenue." *Id*. P 23 (footnotes omitted). This additional revenue is called "marginal loss surplus."

45. The Commission directed PJM to develop a method for disbursing the marginal loss surplus and, in September 2009, approved PJM's proposal to distribute this surplus by a marginal loss surplus allocation (MLSA) that "paid MLSA on a pro rata basis to network service users and

transmission customers (including virtual traders) in proportion to their ratio shares of the total MWs of energy: (i) delivered to load in PJM; (ii) exported from PJM; or (iii) cleared in a UTC transaction that paid for transmission services during such hour." *Id*. P 24 (footnote omitted). In other words, MLSA was allocated on an hourly basis to UTC traders, in proportion to the volume of MWs of paid-for transmission that they had reserved in connection with their trades.

46. As the Commission found with respect to the trades on which it based its penalty assessment, "communications [between Chen and Powhatan and among the Powhatan investors], testimony and other evidence demonstrate that Respondents did not engage in UTC trading for the arbitrage and convergence purposes, but instead to maximize MLSA payments that, but for their trades, would have gone to other market participants." *Id*. P 70.

COMMISSION'S INVESTIGATION OF RESPONDENTS

47. In late July 2010 several market participants informed PJM that they were experiencing unexpected difficulty in reserving transmission. Following these inquiries, PJM discovered that, beginning on June 1, 2010, several market participants (including Respondents) had been reserving large quantities of transmission in OASIS (see ¶ 40 above) associated with high volumes of UTC bids. Order at P 26. With respect to Respondents, PJM discovered (and described in its referral letter) that Respondents had been submitting high volume UTC transactions "in opposite directions between the same two points." *Id*. (quoting PJM Referral).

48. Enforcement started investigating UTC trading by Respondents (and others) after reviewing the information in PJM's referral letter and receiving a separate oral referral from

PJM's IMM.[3] On August 25, 2010, the Commission issued an order of formal investigation. *PJM Up-To Congestion Transactions*, 132 FERC ¶ 61,169 (2010).

49. During the investigation, Enforcement obtained and reviewed Respondents' emails, trade records, and responses to interrogatories, along with similar materials from PJM, and other participants in the UTC market. Enforcement analysts reviewed transactional information and Enforcement attorneys took Chen's testimony and the testimony of a number of Powhatan's investors.

50. Enforcement also studied the multiple submissions from Respondents described below. Enforcement transmitted these records and submissions to the Commission along with its investigative report prior to issuance of the Order. The Commission cited that evidence throughout its Civil Penalties Order.

51. In letters to Respondents' respective counsel dated August 9, 2013 (Preliminary Findings Letters), Enforcement informed Respondents that it had preliminarily determined that Respondents had violated the Anti-Manipulation rule; explained the evidence on which it relied; and invited Respondents to respond.

52. Respondents responded on October 8 and 9, 2013, respectively. Although Powhatan's response consisted solely of a statement declaring that OE's findings "ma[d]e no sense," Chen, HEEP, and CU Fund provided a substantive response. In their responses, Respondents did not dispute having executed any of the trades described in the Preliminary Findings Letters.

53. In September 2014, Enforcement recommended to the Commission that it initiate a public proceeding against Respondents. Consistent with the Commission's regulations (18

[3] The IMM subsequently provided a written referral as well.

C.F.R. § 1b.19 (2014)) Enforcement notified Respondents of this recommendation and again invited a response.

54. Respondents responded on September 24, 2014. (1b.19 Responses).

55. After considering Respondents' 1b.19 Responses, Enforcement staff prepared and submitted an investigative report (Staff Report) recommending that the Commission find that Respondents violated the Anti-Manipulation Rule, require disgorgement of unjust profits with interest, and impose civil penalties. (As stated above, the Staff Report is attached hereto as Appendix A to Exhibit 2.) Enforcement transmitted Respondents' 1b.19 Responses to the Commission along with its investigative report.

56. Pursuant to FPA section 31(d)(1), 16 U.S.C. § 823b(d)(1), on December 17, 2014, the Commission issued an Order to Show Cause and Notice of Proposed Penalty to Respondents, directing Respondents to show cause why the recommended penalties and disgorgement set forth in the Staff Report should not be imposed. *Houlian Chen, Powhatan Energy Fund, LLC, HEEP Fund, LLC, CU Fund, Inc*., 149 FERC ¶ 61,261 (2014), *revised*, 149 FERC ¶ 61,263 (attached hereto as Exhibit 2).

57. While Enforcement's Staff Report recommended the Commission issue an Order to Show Cause, the Enforcement staff who investigated this case did not advise the Commission during its deliberations. The Commission's Separation of Functions regulation, Rule 2202, 18 C.F.R. § 385.2202 (2014), prohibits such investigative staff from participating in findings, conclusions, or decisions, except as a witness or counsel in public proceedings.

58. On January 12, 2015, Respondents notified the Commission of their decision under section 31 of the FPA to waive their opportunity for a trial-type proceeding before an

administrative law judge pursuant to 5 U.S.C. § 554 in favor of a penalty assessment by the Commission with review de novo of that assessment by a federal district court. Order at P 33.

59. Respondents answered the Order to Show Cause on February 2, 2015. Order at P 33. On February 9, 2015, Chen, HEEP, and CU Fund filed a Supplemental Answer. *Id*. Enforcement Staff replied to the answers on March 3, 2015. *Id*.

AFTER REVIEWING THE EVIDENCE AND BRIEFING OF THE ISSUES, THE COMMISSION FOUND THAT RESPONDENTS VIOLATED THE ANTI-MANIPULATION RULE

60. The Commission reviewed the briefs and the extensive administrative record and, on May 29, 2015, issued the Order. In the Order, the Commission found, "[b]ased on the totality of the record in this proceeding, . . . that Respondents' round-trip UTC trading during the Manipulation Period [i.e., June 1, 2010 to August 3, 2010] violated section 222 of the FPA and the Anti-Manipulation Rule." Order at P 4. The Order, attached as Exhibit 1, is expressly adopted and incorporated by reference in this Petition.

A. Background on Respondents' Business Relationship and Trading.

61. Chen began trading UTC through HEEP Fund in September 2007. Order at P 11.

62. In February 2008, Lawrence S. Eiben contacted Chen to propose that Chen provide certain portfolio management services to TFS Capital, LLC. Staff Report at 6. At that time, Eiben was an employee-owner of TFS Capital. *Id*.

63. TFS Capital and HEEP Fund, through Chen, executed an Advisory Agreement ("First Advisory Agreement") commencing May 1, 2008, pursuant to which Chen agreed to execute, on behalf of TFS Capital, trades identical to the trades he executed on behalf of HEEP Fund, albeit in greater volumes. Order at P 12 (citing Staff Report). As with Chen's later agreement with

Powhatan, TFS Capital compensated Chen based on a percentage of the profits earned by his trades for TFS. Staff Report at 6-7.

64. Eventually, another company, Huntrise Energy Fund, LLC (Huntrise), succeeded to TFS Capital's interest in the First Advisory Agreement. Order at P 12 & n.22 (citing Staff Report at 6-7). Huntrise, which has since been shut down, was a private investment fund with its principal place of business in Richmond, Virginia. *Id*. In June 2008, Chen ceased trading on behalf of TFS Capital and traded UTCs on behalf of Huntrise from June 3, 2008 through May 5, 2010. *Id*.; *see also* Staff Report at 7.

65. The Commission found that during the period September 2007 to October 2009, Chen traded UTC lawfully, on the basis of "market fundamentals and the models he developed." Order at PP 38-39 nn.87-88. This trading was characterized by a "careful, low-risk approach" to taking positions in the market. *Id*. P 39. The Commission called this "the first phase of Dr. Chen's UTC trading." *Id*.

66. During autumn 2009, while he traded for HEEP and Huntrise, Chen discovered that his UTC trades had retroactively been credited with MLSA. *Id*. P 41. As he analyzed this new information, Chen discovered that credits associated with trades executed in certain predictable periods exceeded the costs of executing those trades during those periods.

67. The Commission found that this analysis caused Chen, beginning in autumn 2009, to "alter[] his UTC trading strategy away from fundamentals-based spread trading to a strategy designed to capture increased volumes of MLSA payments." *Id*. P 42. Thus began what the Commission calls the "second phase" of Chen's UTC trading. *Id*.

68. Chen shared this analysis with Powhatan investor Kevin Gates, who in turn shared it with his partners and advised them to "ramp up" their trading volumes. *Id*. PP 42-43. Chen disclosed

to Gates that, beginning in February 2010, he had "kicked up" his trading volumes "to target" MLSA. *Id*. PP 43-44 (quoting Email from Alan Chen to Kevin Gates (Mar. 5, 2010, 9:37 PM)). Chen and Gates agreed that they wanted to increase their trading volumes in summer 2010 in order to capture a greater share of the larger MLSA pool available during the "hot summer." *Id*. P 43 (quoting Chen Test. Vol. I Tr. 94:10-12 (Oct. 7, 2010)).

69. The Commission found that during this second phase of Chen's UTC trading, Respondents learned that they could incur substantial losses from transaction costs and price spread changes but still generate gains due to MLSA. *Id*. P 42. Consequently, Respondents increased their trading volumes and their focus on MLSA capture. *Id*. PP 42-46.

70. In early 2010, Chen began implementing a new strategy on behalf of HEEP and Huntrise, which sought to maximize MLSA capture while minimizing exposure to market prices. This "correlated pairs" strategy involved identifying closely correlated nodes (i.e., geographically proximate nodes whose prices tended to move in tandem) and placing trades between them and a third node. *Id*. P 42. Thus, an A to B trade was paired volumetrically and in the same hour with a B to C trade. In effect, this created an A to C trade. Because the price spread and volatility between A and C was expected to be de minimis, profits from the correlated pairs strategy were derived from the difference between MLSA on the one hand and, on the other, transaction costs plus spreads (which, again, were expected to be de minimis) between A and C.

71. In March 2010, Chen explained to Gates that "[w]ithout [MLSA], I would not touch some of the trades and/or would not put in large volumes for some of the trades. But with [MLSA] as it is, they are suddenly becoming risk-free (almost to the point) trades." *Id*. P 69 & n.175 (quoting email from Alan Chen to Kevin Gates (Mar. 5, 2010, 9:37 PM)).

72. In March 2010, Gates and his fellow investors created a new fund, Powhatan Energy Fund, LLC. *Id*. P 13. Powhatan is described in paragraph 26, above. The Commission found that Gates and his fellow investors created Powhatan "[i]n order to 'ramp up' their participation in this new form of MLSA trading and to avoid the potential liability of having to return MLSA payments" in the event PJM attempted to reclaim them. *Id*. P 46; *see also* n.108.

73. In spring 2010, HEEP and Powhatan executed the Powhatan Advisory Agreement, which superseded the First Advisory Agreement. *Id*. P 13. Under the terms of the Powhatan Advisory Agreement, Chen agreed to trade UTCs for Powhatan on the basis of a 20-to-1 multiplier: "This means that for every megawatt that HEEP trades for HEEP's account, HEEP will place trades for 20 megawatts in [Powhatan's] account." Staff Report at 8 (quoting Powhatan Advisory Agreement). The multiplier in the First Advisory Agreement was 2.5-to-1.

74. Shortly after Chen began trading for Powhatan, the correlated pairs strategy failed on one day. A price spike unexpectedly affected only one leg of a correlated pair, which caused a sharp and unexpected price divergence (i.e., the A node did not experience a spike, but the C node did, meaning that, contrary to the purpose of the trades, the A to B and B to C price spreads did not offset). Order at P 47. The net result was that HEEP and Powhatan lost money – in Powhatan's case, a significant amount, due to the multiplier effect – over the course of only a few hours on May 30, 2010. *Id*. P 47.

75. After Respondents' unexpected loss, Chen changed his trading strategy again. *Id*. In this "third phase" of trading, the Commission found that

> Dr. Chen developed his round-trip UTC trading strategy between the same two points (A-to-B, B-to-A). Round-trip trading would effectively eliminate any risk of losing (or earning) money based on price spreads because the matched trades' price spreads canceled each other out. Dr. Chen's round-trip UTC strategy canceled price risk; profits instead came only from collection of MLSA payments, which themselves were now collected in a more effective way than they had been

> in phase two where some price spread risk was possible if the selected nodes did not move in tandem.

Id. (citation omitted).

76. In summer 2010, Chen created a second fund, called CU Fund, Inc., for which he traded UTCs. *Id*. P 14. Because CU Fund was not bound by any advisory agreement with Powhatan, "Dr. Chen was able to trade UTCs on behalf of CU Fund and collect the associated MLSA payments solely for his own benefit." *Id*.

77. Chen did not inform Powhatan about the existence of CU Fund. *Id*. P 14; Staff Report at 29.

78. For CU Fund, Chen implemented the same round-trip UTC trading strategy that he was implementing for HEEP and Powhatan, often placing round-trip trades on the same paths in the same hours for all three funds.

79. Over the course of the Manipulation Period, Respondents executed approximately 16.6 million MWh of round-trip UTC trades. This amounted to approximately 10% of all reservations across PJM during that time. Order at P 99. These trades resulted in the misdirection of approximately $10.1 million of MLSA credits to Respondents. *See* Staff Report at 32.

B. The Commission Found that Respondents Engaged in a Manipulative Scheme

80. The Commission found that Respondents' conduct was fraudulent and manipulative because it was deceptive and because it impaired, obstructed, or defeated a well-functioning market.

81. The Commission found that Respondents' "round-trip UTC transactions were deceptive and manipulative" because they involved "plac[ing] separate bids for each leg of their round-trip UTC transactions in the PJM market, just as other market participants would place routine

arbitrage-based UTC trades. As a result, the two separate legs of Respondents' offsetting trades were not connected and falsely appeared to PJM as legitimate UTC trades, thus concealing their fraudulent nature and purpose." Order at P 5.

82. In finding that Respondents' round-trip trades were fraudulent and manipulative because they impaired, obstructed, or defeated a well-functioning market, the Commission noted that "our use of the term 'well-functioning market' is not limited just to consideration of price or economically efficient outcomes in a market." *Id*. P 49. Rather, the Commission "view[s] the term to also broadly include consideration of 'such rules and regulations as the Commission may prescribe as necessary or appropriate,' which necessarily includes the rates, terms, and conditions of service in a market. Here, we find that intentionally subverting the allocation of payment provided by a tariff approved by the Commission constitutes interference with a 'well-functioning market.'" *Id*. P 49 (citing 16 U.S.C. § 824v).

83. The Commission found that Respondents' round-trip UTC trades were wash trades: "Respondents' round-trip UTC trades were designed to ensure that both legs of a transaction would cancel each other out, thereby eliminating any associated price risk. As the Commission has previously articulated, trades that are pre-arranged to cancel each other out and involve no economic risk are wash trades, which are inherently fraudulent." *Id*. P 6 (citing *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218, at P 53 (2003)).

C. The Commission Found that Respondents Acted Knowingly and Intentionally

84. The Commission found that "the evidence shows that Respondents, individually and together, knowingly and intentionally participated in a manipulative scheme to engage in wash trading and deceive PJM about the true nature of their transactions, thereby harming the market and other market participants." *Id*. P 128.

85. With respect to Respondents Chen, HEEP, and CU Fund, the Commission based its finding of scienter "principally on: (1) evidence that Dr. Chen understood that his fraudulent trading scheme was inconsistent with, and obstructed the market design purpose of, UTC trading in PJM; (2) evidence of the pattern and evolution of Dr. Chen's round-trip UTC trading; and (3) Dr. Chen's deliberate decision to increase profits for himself after perfecting his scheme." *Id*. PP 129-136.

86. The Commission rejected Respondents' alternative explanation of their purposes, the "home run" strategy. The supposed "home run" strategy was an explanation for Respondents' trading proffered during the investigation and show cause proceeding which hypothesized that the round-trip trades had not been placed for the purpose of capturing MLSA, but rather for the purpose of capitalizing on unforeseeable and unlikely "black swan" type events. *Id*. P 52 & n.124; Staff Report at 42 & n.232. The home run theory suggested that Respondents desired for one leg of a round-trip pair to be rejected in the hopes that the resulting market exposure would result in windfall profits (rather than significant losses). The Commission further found that its determination that Respondents acted with scienter is reinforced by "their creation of a *post hoc* explanation – the home run strategy – for which there is no evidentiary support contemporaneous with the relevant trading conduct." Order at P 129; *see also* PP 86-93 (footnote omitted).

87. With respect to Powhatan, the Commission based its finding of scienter "on contemporaneous evidence showing its: (1) knowledge and understanding of Dr. Chen's round-trip UTC trading scheme, including the consequences of the scheme; (2) support, increased investment in and encouragement for the scheme; and (3) deliberate actions to increase its profits resulting from the scheme." Order at PP 137-40.

D. The Commission Found that Respondents' Manipulative Scheme Caused Harm

88. The Commission found that Respondents' "communications and testimony show that Respondents understood that their round-trip UTC trades had little price risk by design, were not undertaken to arbitrage price spreads, were certain themselves to lose money, and were placed only to create the illusion of volume trading to obtain transmission and thereby earn MLSA payments that otherwise would have gone to other market participants." *Id*. P 72.

89. The Commission found that "identifiable market participants were harmed by Respondents' conduct; they did not receive the MLSA payments they would have received absent Respondents' unlawful round-trip UTC trades, as provided for under the then-effective PJM Tariff's MLSA provision." *Id*. P 98.

90. The Commission further found that "[d]uring the Manipulation Period, Respondents scheduled more than 16.6 million MWh of transmission service in connection with their fraudulent, round-trip UTC trades, which amounted to more than 10 percent of all day-ahead transmission service reservations in PJM." *Id*. P 99. The Commission concluded that this "impacted the availability of transmission from the time they reserved this transmission service until the time it was released for other market participants' use in the real-time market." *Id*. P 99.

E. The Commission Found that Respondents' Manipulative Scheme Involved Jurisdictional Transactions.

91. The Commission has jurisdiction over Respondents' UTC trading. *Id*. PP 144-148. UTCs are "integral to the operation and settlement of Commission-jurisdictional wholesale markets," and "can affect the outcomes of the settlement of the day ahead physical market." *Id*. P 146 (citation omitted).

92. Respondents' UTC transactions involved reservation of transmission and "the Commission's jurisdiction over transmission is extremely broad." *Id*. P 147 (citing *New York v. FERC*, 353 U.S. 1, 16-17 (2002)).

93. The Commission also noted that it has jurisdiction over conduct "in connection with jurisdictional trades" under FPA section 222, 16 U.S.C. §824v(a), and found that Respondents' trades were sufficiently "in connection" with jurisdictional transactions to satisfy the jurisdictional nexus under that provision as well. *Id*. P 148.

94. Finally, Respondents' UTC trades and the transmission reservations and marginal loss surplus allocation payments associated with them were all implemented pursuant to a Commission-approved tariff by PJM, a Commission-regulated RTO. *Id*. P 145. The Commission must ensure that the terms and conditions embodied in filed tariff provisions that are in connection with jurisdictional transactions are just and reasonable. *Id*. P 144 & n.344 (citing 16 U.S.C. §§ 824d(a) and 824e(a) (2012)).

F. The Commission Determined Appropriate Civil Penalties.

95. Having concluded that Respondents manipulated the wholesale electric market in PJM, the Commission assessed penalties of $16,800,000 for Powhatan; $10,080,000 for CU Fund; $1,920,000 for HEEP Fund; and $1,000,000 for Chen.

96. The Commission found these penalties to be statutorily authorized under the FPA and appropriate in this case. *Id*. PP 149-87. The Commission determined that the penalties were well below the statutory maximum authorized in this case. *Id*. P 150.

97. In determining the appropriate civil penalties for the corporate Respondents (Powhatan, HEEP, and CU Fund), the Commission applied statutory factors and its own Penalty Guidelines.

98. The statutory factors require the Commission to consider "the seriousness of the violation and the efforts of such person to remedy the violation in a timely manner." *Id*. P 151 (quoting

FPA Section 316A(b), 16 U.S.C. § 825o-1(b)). The Commission determined that the violations were serious, and that there was no attempt to remedy the violations in a timely manner. *Id*. PP 186-187 & n.408.

99. The Commission explicitly applied its non-binding Penalty Guidelines and, in so doing, explained in detail its reasons for concluding that the penalties were reasonable. Pursuant to those guidelines, the Commission considered Respondents' cooperation with the investigation as a mitigating factor. *Id*. PP 163, 173.

100. The Commission found that it was appropriate to hold Powhatan and HEEP jointly and severally liable for the $1,920,000 penalty assessed against HEEP. *Id*. P 164. The Commission found that "[w]ere we not to adopt joint and several liability, entities engaged in the intentional act of fraud could potentially avoid paying the full penalty and disgorgement amounts. This would be improper." *Id*. P 165 (citing Email from Kevin Gates to Richard Gates (Mar. 21, 2010, 7:55 AM) (noting that if PJM sought to claw back MLSA payments "we'd bankrupt our company and not pay PJM")).

101. The Commission similarly found that it was appropriate to hold Powhatan and HEEP jointly and severally liable for the $16,800,000 penalty assessed against Powhatan "given the collusion between them." *Id*. P 175.

102. The Commission's Penalty Guidelines do not apply to individuals. *See* Order at P 155. Therefore, in determining the appropriate civil penalty for Chen, the Commission conducted a "separate penalty analysis" which was "guided by the facts and circumstances of his violations and some of the same factors described in the Penalty Guidelines." *Id*. P 155. In determining the appropriate penalty for Chen, the Commission therefore applied five factors it has previously applied in assessing penalties against individuals: "(1) seriousness of the violation; (2)

commitment to compliance; (3) self-reporting; (4) cooperation; and (5) reliance on Enforcement Staff guidance." *Id*. P 179.

103. Applying these factors, the Commission found that

> there is a critical need to discourage and deter the fraudulent conduct at issue and that a civil penalty of $1,000,000 is fair and reasonable. We find this civil penalty to be particularly appropriate given that Dr. Chen designed and implemented the fraudulent scheme and course of business to defraud on behalf of multiple entities, and given the widespread scope of and harm caused by his violations. Also, Dr. Chen never made any efforts to remedy or cease his violations and stopped trading only after being contacted by PJM's IMM.

Id. P 187.

CLAIM FOR RELIEF

104. The Commission repeats each and every allegation set forth in Paragraphs 1 through 103, inclusive, as if set forth fully herein.

105. Respondents used or employed a fraudulent device, scheme, or artifice, or engaged in an act, practice, or course of business that operates or would operate as a fraud or deceit, with scienter, in connection with electric energy subject to the jurisdiction of the Commission in contravention of FPA section 222, 16 U.S.C. § 824v, and the Commission's Anti-Manipulation Rule, 18 C.F.R. § 1c.2, promulgated to implement that section of the FPA. Respondents' manipulative scheme involved multiple trades on each of 16 days for CU Fund and 64 days for HEEP, Powhatan, and Chen. Order at P 150. Each of these separate days, and each manipulative trade during such days, constitutes a separate violation of FPA section 222, 16 U.S.C. § 824v, and the Commission's Anti-Manipulation Rule, 18 C.F.R. § 1c.2.

106. Accordingly, the Commission is entitled to an Order from this Court affirming its assessment of civil penalties against Respondents under FPA section 31, 18 U.S.C. § 823b(d)(3)(B), and ordering Respondents to disgorge their unjust profits.

JURY DEMAND

107. The Commission respectfully submits that this Court can and should affirm the penalty assessments without modification following a review of the Commission's Order and the materials presented to the Commission during the penalty assessment process.

108. Should the Court determine, however, that its review of the Order requires a trial on any issues, the Commission, pursuant to Rule 38 of the Federal Rules of Civil Procedure, demands a trial by jury on all issues triable as such.

RELIEF REQUESTED

WHEREFORE, the Commission respectfully requests that this Court:

(A) Enter an order and judgment affirming the Commission's assessment of a $16,800,000 civil penalty, plus interest, against Powhatan and ordering Powhatan to pay that penalty.

(B) Enter and order and judgment affirming the Commission's assessment of a $1,000,000 civil penalty, plus interest, against Chen and ordering Chen to pay that penalty.

(C) Enter an order and judgment affirming the Commission's assessment of a $1,920,000 civil penalty, plus interest, against HEEP and ordering HEEP to pay that penalty.

(D) Enter an order and judgment affirming the Commission's assessment of a $10,080,000 civil penalty, plus interest, against CU Fund and ordering CU Fund to pay that penalty.

(E) Enter an order and judgment requiring Powhatan to disgorge $3,465,108 in unjust profits, plus interest, it obtained as a result of its illegal manipulative scheme.

(F) Enter an order and judgment requiring HEEP to disgorge $173,100 in unjust profits, plus interest, it obtained as a result of its illegal manipulative scheme.

(G) Enter an order and judgment requiring CU Fund to disgorge $1,080,576 in unjust profits, plus interest, it obtained as a result of its illegal manipulative scheme.

(H) Grant such other and further relief as the Court may deem just and proper; and

(I) Retain jurisdiction over this action to enforce any Orders or Final Judgments issued by this Court.

Dated: July 31, 2015

Respectfully submitted,

FEDERAL ENERGY REGULATORY COMMISSION

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EXHIBIT 1

151 FERC ¶ 61,179
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Philip D. Moeller, Cheryl A. LaFleur,
Tony Clark, and Colette D. Honorable.

Houlian Chen
Powhatan Energy Fund, LLC
HEEP Fund, LLC
CU Fund, Inc.

Docket No. IN15-3-000

ORDER ASSESSING CIVIL PENALTIES

(Issued May 29, 2015)

Paragraph Numbers

1. In this Order, we find that Dr. Houlian Chen (Dr. Chen), Powhatan Energy Fund, LLC (Powhatan), HEEP Fund, LLC (HEEP), and CU Fund, Inc. (CU Fund) (collectively, Respondents) violated section 222 of the Federal Power Act (FPA)[1] and section 1c.2 of the Commission's regulations,[2] which prohibit energy market manipulation, through a scheme to engage in fraudulent Up-To Congestion (UTC) transactions in PJM Interconnection L.L.C.'s (PJM) energy markets to garner excessive amounts of certain credit payments to transmission customers. In light of the seriousness of these violations, we find that it is appropriate to assess civil penalties pursuant to section 316A of the FPA[3] in the following amounts: $16,800,000 against Powhatan, $10,080,000 against CU Fund, $1,920,000 against HEEP, and $1,000,000 against Dr. Chen. The Commission further directs the disgorgement of unjust profits, plus applicable interest, pursuant to section 309 of the FPA,[4] in the following amounts: $3,465,108 for Powhatan, $1,080,576 for CU Fund, and $173,100 for HEEP.

I. Executive Summary

2. Respondents' scheme involved financial trading in the wholesale electricity market administered by PJM. As discussed in further detail below,[5] PJM operates both a day-ahead market, in which generation is scheduled one-day prior to the relevant operating day, and a real-time market, in which generation is scheduled and dispatched to correct for variations between the day-ahead schedule and actual demand for electricity. PJM's energy market offers products that involve the physical movement of electricity, as well as various financial or virtual products that do not involve the exchange of physical energy, including the UTC product. A UTC product is a type of spread trade that allows market participants to arbitrage the difference between day-ahead and real-time congestion prices at two different locations.[6] When the UTC transactions discussed

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[1] 16 U.S.C. § 824v(a) (2012).

[2] 18 C.F.R. § 1c.2 (2014) (Anti-Manipulation Rule).

[3] *Id.* § 825o-1(b).

[4] *Id.* § 825h.

[5] Details regarding the PJM Market, UTC product, and transmission credit payments at issue in this proceeding are discussed in the background section. *See* discussion *supra* PP 15-25.

[6] In particular, a UTC bid that clears PJM's market will pay the difference between the day-ahead prices at location A and location B, and receive the difference between the real-time prices at location A and location B.

in this proceeding were made, PJM's market rules required market participants to reserve transmission service in connection with their UTC trade.[7] As a result, UTC transactions became eligible to receive certain transmission credits, known as Marginal Loss Surplus Allocation (MLSA).[8] PJM distributed the MLSA payments on a *pro rata* basis to all customers who paid for transmission service.

3. From June 1 to August 3, 2010 (Manipulation Period),[9] Respondents designed and implemented a fraudulent UTC trading scheme to receive excessive amounts of MLSA payments. To do this, Respondents intentionally placed a high-volume of "round-trip" UTC trades that canceled each other out by placing the first leg of the trade from locations A to B, and simultaneously placing a second leg of equal volume from locations B to A. The contemporaneous evidence shows that Respondents artificially created these round-trip UTC trades solely to reserve transmission service to enable them to collect excessive MLSA payments during the Manipulation Period.

4. Based on the totality of the record in this proceeding, we find that Respondents' round-trip UTC trading during the Manipulation Period violated section 222 of the FPA and the Anti-Manipulation Rule. When used appropriately, UTC trades in PJM permit financial traders to profit by arbitraging market prices between two locations in the day-ahead and real-time market; these transactions can benefit PJM's market by encouraging convergence between day-ahead and real-time market prices.[10] Respondents' testimony makes clear that they understood this, yet they intentionally placed fraudulent round-trip UTC trades that did not provide any benefit to the PJM market. Respondents knew that their round-trip UTC trades would net no market position, and that on their own these

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[7] Confidential Referral of Potential Violations of FERC Market Rule, at 2, 4 (Aug. 16, 2010) (PJM Referral). A reservation for transmission service that is accepted by PJM provides the market participant with the right to flow electricity on a designated transmission path. Any given transmission path has a limited amount of capacity.

[8] *See* discussion *infra* PP 22-25.

[9] While HEEP continued to place certain UTC trades through August 18, 2010, Respondents' UTC trades that are the subject of this order ceased on August 3, 2010. Thus, we will define the Manipulation Period for purposes of this order as June 1 through August 3, 2010.

[10] *Black Oak Energy, L.L.C., et al. v. PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,208, at n.85 (2008); *Black Oak Energy, L.L.C., et al. v. PJM Interconnection, L.L.C.*, 125 FERC ¶ 61,042, at P 43 (2008) (noting that financial arbitrage transaction is of value in energy markets); *see also* discussion *infra* PP 18-21.

round-trip trades would not generate a profit or a loss based on price spreads. But, by making these trades, Respondents collected MLSA payments exceeding the transaction costs they incurred for the trades, and yielding a significant profit, as they expected.

5. We disagree with Respondents' argument that their round-trip UTC trading scheme does not constitute fraud because the trades were permissible under a "loophole" in PJM's tariff and, according to them, did not involve any active deception, such as false statements or active concealment. As the Commission has previously articulated, "[a]n entity need not violate a tariff, rule or regulation to commit fraud."[11] The fact that the PJM tariff does not explicitly prohibit round-trip UTC trades does not create a loophole or otherwise render Respondents' transactions lawful. Moreover, Respondents' round-trip UTC transactions were deceptive and manipulative. Respondents placed separate bids for each leg of their round-trip UTC transactions in the PJM market, just as other market participants would place routine arbitrage-based UTC trades. As a result, the two separate legs of Respondents' offsetting trades were not connected and falsely appeared to PJM as legitimate UTC trades, thus concealing their fraudulent nature and purpose.

6. Moreover, we find that Respondents' round-trip UTC transactions constitute wash trades, and that all market participants had notice that wash trades violate section 222 of the FPA and the Commission's Anti-Manipulation Rule.[12] Respondents' round-trip UTC trades were designed to ensure that both legs of a transaction would cancel each other out, thereby eliminating any associated price spread risk. As the Commission has previously articulated, trades that are pre-arranged to cancel each other out and involve no economic risk are wash trades, which are inherently fraudulent.[13]

7. Further, we conclude that Respondents engaged in this scheme knowingly and intentionally. Testimony, email communications, and other evidence demonstrate that Respondents chose to engage in UTC trades solely to garner excessive MLSA payments in a manner inconsistent with the market function of UTC transactions. Respondents also understood that, as a consequence of this trading scheme, other market participants would

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[11] *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). *See also In re Make-Whole Payments and Related Bidding Strategies*, 144 FERC ¶ 61,068, at P 83 (2013) (citations omitted).

[12] *See* discussion *infra* PP 103-107.

[13] *Investigation of Terms and Conditions of Public Utility Market-Based Rule Authorizations*, 105 FERC ¶ 61,218, at P 53 (2003).

receive a proportionally smaller share of MLSA payments. As Respondents' UTC transactions increased, their transmission service reservations and proportionate share of MLSA payments increased, thus decreasing the available transmission and MLSA payments for other eligible market participants. Accordingly, by targeting MLSA payments through these artificial, high-volume, round-trip UTC trades, Respondents fraudulently obtained MLSA payments that otherwise would have been distributed to other market participants.

8. We also find that the Commission has jurisdiction over Respondents' conduct. The U.S. Court of Appeals for the District of Columbia Circuit has held that the Commission has authority under the FPA to regulate the activity of traders, like the Respondents, who participate in energy markets.[14] Moreover, the Commission has jurisdiction over the transmission or sale of electric energy at wholesale in interstate commerce,[15] as well as a responsibility to ensure that the rates and charges for transmission and wholesale power sales are just and reasonable and not unduly discriminatory or preferential.[16] As applicable here, virtual transactions, including UTC trades, are integral to the operation and settlement of Commission-jurisdictional wholesale electricity markets. Respondents engaged in UTC transactions, reserved transmission capacity, and received MLSA payments pursuant to PJM's Commission-approved tariff.

9. Finally, having found that Respondents knowingly and intentionally devised and participated in a fraudulent scheme to manipulate PJM's wholesale electricity market in violation of the Commission's regulations, we conclude that both civil penalties and disgorgement should be assessed against Respondents. This determination is consistent with the Commission's long-standing practice to require disgorgement of unjust profits,[17] as well as the Commission's discretion to assess civil penalties against any person who violates Part II of the FPA, or any rule or order thereunder.[18]

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[14] *Kourouma v. FERC*, 723 F.3d 274, 276 (D.C. Cir. 2012).

[15] 16 U.S.C. § 824(b)(1) (2012).

[16] *Id.* §§ 824d, 824e.

[17] *Enforcement of Statutes, Regulations, & Orders*, 123 FERC ¶ 61,156, at P 43 (2008) (Revised Policy Statement on Enforcement).

[18] 16 U.S.C. § 825o-1(b).

II. Background

A. Relevant Entities

10. Respondents in this case consist of Dr. Chen and a series of financial entities on whose behalf Dr. Chen traded UTCs in PJM during the Manipulative Period. Certain of Respondents (HEEP and CU Fund) are wholly-owned by Dr. Chen, while Respondent Powhatan was owned by investors who sought to capitalize on Dr. Chen's UTC trading expertise.

11. Dr. Chen started HEEP in August 2007 and began trading in PJM markets in September 2007. On and after September 2007, nearly all of HEEP's trading was in UTCs.[19] Starting in May 2008, Dr. Chen, through HEEP, began trading UTCs pursuant to a contractual arrangement with companies owned, in part, by brothers Richard and Kevin Gates, first with TFS Capital LLC (TFS) and Huntrise Energy Fund, LLC (Huntrise), which were effectively predecessors in interest to Respondent Powhatan.[20]

12. On May 1, 2008, HEEP executed an agreement with TFS (the Advisory Agreement), under which Dr. Chen agreed to conduct UTC trades on behalf of TFS "mirroring UTC trades he executed for HEEP on a two-and-a-half-to-one basis."[21] This meant that for every megawatt (MW) Dr. Chen placed on behalf of HEEP he placed 2.5 MW for TFS at the same nodes. Thus, to the extent Dr. Chen profited, TFS and its investors earned more profit. In June 2008, Dr. Chen stopped trading for TFS and began trading on behalf of Huntrise, which succeeded to TFS's interest in the Advisory Agreement (under the same two-and-a-half-to-one trading basis).[22]

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[19] Chen Test. Vol. I Tr. 37:1-2; 38:10-16; 78:1-4; 76:6-24.

[20] When we refer to Mr. Gates in the remainder of this Order, we are referring to Mr. Kevin Gates.

[21] *Houlian Chen, et al.*, 149 FERC ¶ 61,261 (Order to Show Cause), *revised*, 149 FERC ¶ 61,263 (2014) (Revised Order to Show Cause); App. A to Order to Show Cause at 6 (Staff Report) (citing POW00000071).

[22] Staff Report at 6-7; Chen Test. Vol. I Tr. 40:14-23; POW00000071. During the relevant period of time, Huntrise had one investor: the Huntrise Fund of Funds, which, in turn, was controlled by its managing members, the Gates brothers and Mr. Eiben. Staff Report at 7 n.35. TFS was "controlled by the same small circle of individuals as Huntrise and Powhatan." *Id.* at 7; Chen Test. Vol. I Tr. 40:17-41:1.

13. In March 2010, the Gates brothers formed Powhatan along with Larry Eiben. On May 18, 2010, HEEP executed a new Advisory Agreement with Powhatan that increased the ratio of Dr. Chen's UTC trades from the earlier two-and-a-half-to-one basis for TFS and Huntrise to a twenty-to-one basis for Powhatan.[23]

14. Later, on July 17, 2010, Dr. Chen formed Respondent CU Fund. Unlike HEEP, CU Fund had no Advisory Agreement with Powhatan obligating him to make trades on behalf of Powhatan. Thus, Dr. Chen was able to trade UTCs on behalf of CU Fund and collect the associated MLSA payments solely for his own economic benefit.

B. The PJM Market

15. PJM, one of several Commission-regulated Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs), operates a wholesale electricity market, which balances the minute-by-minute supply and demand requirements for electric power, in a 13-state region extending from Illinois to North Carolina.[24] PJM uses market-based systems to determine a least-cost solution by optimizing available assets within its territory to meet electricity demand and reliability requirements. Electricity prices in PJM vary based on the specific location, or node, within the market. For this reason, electricity prices at the various locations are called Locational Marginal Prices (LMP). Three components summed together form the LMP: (i) an energy price (which is the same at each node and represents the cost to serve the next increment of load (demand) at a pre-determined reference location); (ii) the cost of congestion (which varies at each node depending on the limitations of the transmission system to move power freely between constrained and non-constrained locations); and (iii) the cost of line losses (which are central to this proceeding and which we discuss in greater detail below).

16. PJM operates a dual settlement market, with both a day-ahead market and a real-time market. PJM determines LMPs through the least-cost solution on an hourly basis in the day-ahead and on a five-minute basis (which can be integrated into an hourly figure) in the real-time for all nodes.

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[23] Staff Report at 8; Advisory Agreement between HEEP and Powhatan, dated May 18, 2010 (POW00000067).

[24] PJM's footprint includes all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia. http://www.pjm.com/about-pjm/who-we-are/territory-served.aspx (last visited May 8, 2015).

17. In addition to physical transactions, which are premised on the actual delivery of electricity, PJM offers various virtual products, including UTCs[25] for which no generation is dispatched and no load is served, and obligations are met through cash settlement. Virtual products are designed to increase market liquidity, drive convergence[26] between the day-ahead and real-time market, and provide vehicles for hedging. While virtual products carry no obligation to buy or sell physical power, they serve a direct role in day-ahead price formation as reflected in day-ahead LMPs. As such, virtual products can: (1) be the price setting marginal factor in determining day-ahead LMPs; (2) affect day-ahead dispatch; and (3) affect other market participant positions.[27]

C. PJM's Up-To Congestion Product

18. UTCs were initially created as a tool to hedge congestion price risk associated with physical transactions,[28] and later became a way for market participants to profit by arbitraging the price differences between two nodes in the day-ahead and real-time

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[25] A virtual transaction does not require generation to be dispatched or load to be served. Rather, it allows a market participant to arbitrage day-ahead versus real-time prices by either purchasing or selling a position in the day-ahead market, and then doing the opposite in an equal volume at the same location in the real-time market, thereby taking no physical position when the system is dispatched.

[26] Convergence in the PJM market is the reduction in the spread between day-ahead and real-time LMPs at a specific node. As indicated by PJM's Independent Market Monitor (IMM), "price convergence does not necessarily mean a zero or even a very small difference in prices between [d]ay-[a]head and [r]eal-[t]ime [e]nergy [m]arkets. There may be factors, from operating reserve charges to risk that result in a competitive, market-based differential." PJM's IMM, *2010 State of the Market for PJM*, vol. 2 (Mar. 10, 2011), *available at* http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2010/2010-som-pjm-volume2-sec2.pdf

[27] Howard J. Haas, *Spread Bidding: MA Concerns and Mitigation Outline* (Sept. 10, 2009), *available at* http://www.monitoringanalytics.com/reports/Presentations/2009/Spread_Bidding_MA_Concerns_and_Mitigation_Outline_20090910.pdf.

[28] *PJM Interconnection, L.L.C.*, 144 FERC ¶ 61,121, at P 3 (2013); *see also Calif. Indep. Sys. Operator Corp.*, 143 FERC ¶ 61,087, at P 6 (2013) (noting that market participants can use virtual transactions to "hedge financial expectations").

markets.[29] A UTC bid that clears "will pay the difference between the [d]ay-ahead sink LMP and the source LMP and be paid the difference between the [r]eal-time sink LMP and source LMP."[30] Thus, "cleared UTC transactions in the direction of congestion are profitable when real-time congestion is greater than day-ahead congestion. In the counter-flow direction, UTC transactions are profitable when real-time congestion decreases or reverses from the counter-flow direction toward the direction of congestion."[31]

19. UTC transactions in PJM are designed to serve two purposes. First, market participants use them as a congestion management tool to hedge exposure to real-time congestion charges between the source and sink (which can differ significantly from day-ahead congestion charges) of physical energy transactions in PJM.[32] Second, financial traders use them as a "purely virtual product."[33] Specifically, arbitrageurs can use UTCs to take on directional price risk related to the differences between LMP in the day-ahead and real-time markets. As the Commission has explained:

> Under an Up-To congestion price arrangement, arbitrageurs may sell power at point A and buy power at point B in the [d]ay-[a]head market as long as the price differential between these points is no greater than the specified amount. If during the [r]eal-[t]ime market, the spread between these points increases, the arbitrageur makes money; if the spread decreases, it loses money.[34]

20. UTCs, like other virtual products, can promote market efficiency because, as we have recognized, virtual products "increase[] market liquidity and [create] price

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[29] *PJM Interconnection, L.L.C.*, 144 FERC ¶ 61,121, at P 19 (2013).

[30] *PJM Interconnection, L.L.C.*, 148 FERC ¶ 61,144, at n.8 (2014).

[31] *Id.*

[32] *PJM Interconnection, L.L.C.*, 144 FERC ¶ 61,121 at P 3.

[33] *Id.* P 19 (noting the "evolution of the UTC product from a day-ahead financial hedge of a real-time physical transaction to its present primary use as a purely virtual product").

[34] *Black Oak Energy, L.L.C., et al. v. PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,208 at n.85.

convergence between the day-ahead and real-time markets."[35] Although they are settled financially, virtual (including UTC) transactions can affect prices in the day-ahead market as well as what units are dispatched by PJM to provide energy to the wholesale grid.[36]

21. At the time Respondents traded the UTCs at issue in this proceeding, PJM required all UTC transactions to be associated with transmission service reservations,[37] which once obtained, provided the right to flow electricity across the PJM system. In 2010, Respondents reserved non-firm point-to-point transmission for their UTC trades.

D. Marginal Loss Surplus Allocations

22. At the time of Respondents' conduct, all UTC transactions associated with transmission service in PJM were eligible to receive a portion of MLSA payments. MLSA refers to the PJM-developed and Commission-accepted distribution to market participants of the surplus revenues that PJM collects for transmission line losses.

23. When electricity flows through a transmission line, a certain amount of energy is lost in the form of heat. The farther electricity travels on any given transmission line, the greater the loss.[38] In calculating the cost of line loss, as part of LMP, PJM sets the price

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[35] *PJM Interconnection, L.L.C.*, 104 FERC ¶ 61,309, at P 20 (2003); *see also ISO New England Inc.*, 110 FERC ¶ 61,250, at P 30 (2005) ("In fact, virtual trading activities provide important benefits to the market, including price convergence between the [d]ay-[a]head and [r]eal-[t]ime markets, price discovery, market liquidity, and increased competition.").

[36] *Black Oak Energy*, 122 FERC ¶ 61,208 at P 38 (noting that there is a "price impact of the virtual transaction on the physical transmission system that forms the basis for both the [d]ay-[a]head and [r]eal-[t]ime [e]nergy [m]arkets").

[37] PJM Referral at 2, 4. PJM assessed certain transmission charges for transmission service reservations. Reserved capacity with a Midcontinent Independent System Operator, Inc. (MISO) point of delivery, however, was not assessed any transmission fees. Monitoring Analytics' PJM Marginal Loss Surplus Allocation and Market Participant Transaction Activity: May 15, 2010 through September 17, 2010, at 7 (Jan. 6, 2011) (IMM Referral).

[38] *Atlantic City Elec. Co., et al. v. PJM Interconnection, L.L.C.*, 115 FERC ¶ 61,132, at P 3 (2006) ("As in the case of all electric transmission, there is some loss of the scheduled megawatts as the power is transmitted from the point of generation to the point of delivery. That is, the total megawatt-hours of energy received by customers is

(continued...)

at marginal cost, rather than average cost.[39] Because marginal costs of line losses are greater than average costs, PJM receives more payments than necessary to compensate for actual line losses, resulting in a surplus revenue.[40]

24. The Commission recognized that "a method needs to be determined for disbursing the over collected amounts" of line loss payments.[41] In September 2009, the Commission accepted PJM's proposed distribution method, which paid MLSA on a *pro rata* basis to network service users and transmission customers (including virtual traders) in proportion to their ratio shares of the total MWs of energy: (i) delivered to load in PJM; (ii) exported from PJM; or (iii) cleared in a UTC transaction that paid for transmission services during such hour.[42]

25. Mathematically, MLSA was calculated hourly as a market participant's eligible MW (i.e., in energy delivered to load or transmission reservations for exports and UTCs) divided by the total PJM eligible MW (i.e., total energy delivered to load and transmission reservations). Under this distribution mechanism, as a market participant's cleared UTC transactions increased, its transmission reservations increased and, thus, its share of the available MLSA also increased (while inversely decreasing the available MLSA for other market participants).

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less than the total megawatt-hours of energy produced by generators. Such loss results in a cost PJM incurs to maintain the level of the scheduled power and to deliver it under conditions of system reliability.").

[39] *Id.* P 4.

[40] *Id.* P 5.

[41] *Id.* P 24.

[42] *Black Oak Energy, L.L.C., et al. v. PJM Interconnection, L.L.C.*, 128 FERC ¶ 61,262, at P 23 (2009). The Commission found that PJM's proposed method of distributing line loss surplus to those that pay to support the fixed costs of the transmission grid is reasonable. *Id.* ("The Commission finds that PJM's proposal is a just and reasonable method of allocating the surplus, subject to the condition that PJM clarify that its tariff complies with our finding that payments be made only to those who pay for the costs of the transmission grid.").

E. PJM and IMM Referrals, Office of Enforcement Investigation, and Order to Show Cause

26. In August 2010, PJM sent the Commission's Office of Enforcement (OE) a referral related to Respondents' round-trip UTC trades. The PJM referral was prompted by a market participant who contacted PJM on July 23, 2010, complaining about unusually high volumes of transmission reservations on PJM's Open Access Same-Time Information System (OASIS) and wondering whether certain market participants "were 'trying to game the system in some way' by 'trying to lock people out of transmission purchases.'"[43] PJM confirmed that several market participants reserved large quantities of transmission and discovered that such reservations were associated with high volumes of UTC bids, beginning on June 1, 2010.[44] PJM identified Powhatan, HEEP, and CU Fund as market participants submitting high volumes of UTC transactions "in opposite directions between the same two points."[45] PJM explained that such transactions "result[ed] in no risk of any day-ahead or balancing market settlement (because the settlement of the transactions in the opposite directions would offset each other in both the day-ahead and balancing markets)."[46] PJM explained that these offsetting UTC transactions resulted in an "allocation of marginal loss surplus based on the cleared MWh of transactions."[47]

27. PJM believed that Respondents' "opposite-direction" UTC transactions "constituted a scheme of 'wash' or offsetting trades that created no economic value and little to no risk to the participant, solely to inflate transaction volumes in order to receive an improper allocation of marginal loss surplus allocation revenue."[48] PJM believed "that these offsetting trades were undertaken with the intent of manipulating PJM market rules so as to gain an allocation of marginal loss surplus revenue without any corresponding usage of the transmission system."[49] PJM asked OE to investigate the

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[43] PJM Referral at 1. Another market participant contacted PJM on July 28, 2010, with a similar complaint. *Id.*

[44] *Id.* at 1.

[45] *Id.* at 2.

[46] *Id.*

[47] *Id.*

[48] *Id.* at 4.

[49] *Id.*

conduct and to require Respondents to disgorge any of the revenue they received since June 1, 2010, as a result of this scheme.[50]

28. In August 2010, based on the referral from PJM, OE Staff launched an investigation of Dr. Chen's UTC transactions on behalf of the Respondents.[51] On August 25, 2010, the Commission issued an order formalizing the investigation.[52] In that order, we noted PJM's allegations that "trades were undertaken with the intent of manipulating PJM market rules so as to gain an allocation of marginal loss surplus revenue without any corresponding usage of the transmission system," and authorized OE to conduct an investigation "regarding violations of the Commission's . . . Prohibition of electric energy market manipulation, that may have occurred in connection with, or related to, certain [UTC] transactions in PJM."[53] We also directed OE Staff to report the results of that investigation to the Commission.[54]

29. On January 6, 2011, PJM's IMM submitted a similar referral to OE. The IMM stated that Respondents' "offsetting" UTC transactions were "similar in fundamentals to wash trades, which have been expressly identified as prohibited activities by the Commission."[55] The IMM further compared the trades to wash trades conducted by Enron that also "took the form of energy market transactions that canceled out but created the illusion of volume trading."[56] Similar to PJM, the IMM asserted that the referred trading activities "exploit the marginal loss allocation rules implemented by PJM to derive a benefit from transactions with no fundamental economic rationale or value."[57] The IMM emphasized that because "there is no rational basis for characterizing such transactions as economic without the marginal loss surplus allocation, a determination that such transactions were intended to operate as a fraud or deceit upon PJM and

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[50] *Id.* at 6.

[51] Staff Report at 43.

[52] *PJM Up-To Congestion Transactions*, 132 FERC ¶ 61,169 (2010).

[53] *Id.* PP 1-2 (citation and internal quotations omitted).

[54] *Id.* at Ordering Paragraph.

[55] IMM Referral at 4.

[56] *Id.*

[57] *Id.* at 3.

participants in the markets administered by PJM is warranted. Such behavior violates the Commission's rule prohibiting energy market manipulation . . . ."[58]

30. On August 9, 2013, OE Staff issued Preliminary Findings Letters to Respondents explaining the factual and legal bases for its preliminary findings of violations.[59] Respondents replied to the Preliminary Findings Letters on October 9, 2013.[60] The Office of the Secretary issued a Notice of Alleged Violations on August 5, 2014. After settlement discussions proved unavailing, OE Staff provided notices under section 1b.19 of the Commission's regulations[61] of its intent to recommend the initiation of a public proceeding against the Respondents. On September 24, 2014, Respondents provided their responses to OE Staff's 1b.19 letters.[62]

31. On December 17, 2014, the Commission issued an Order to Show Cause, which commenced this public proceeding.[63] In the Staff Report attached to the Order to Show Cause, OE Staff alleges that the Respondents violated the Commission's Anti-Manipulation Rule from June 1, 2010 to August 18, 2010. OE Staff recommends that the Commission assess: (1) a civil penalty of $16,800,000 and disgorgement of $3,465,108, plus interest, against Powhatan; (2) a civil penalty of $10,080,000 and disgorgement of $1,080,576, plus interest, against CU Fund; (3) a civil penalty of $1,920,000 and disgorgement of $173,100, plus interest, against HEEP; and (4) a civil penalty of $500,000 against Dr. Chen for trades executed through and on behalf of HEEP and

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[58] *Id.* at 3-4.

[59] *See* Letter from S. Tabackman, OE Staff, to J. Estes, III, counsel for Dr. Chen (Aug. 9, 2013); Letter from S. Tabackman to W. McSwain, counsel for Powhatan (Aug. 9, 2013).

[60] Dr. Chen's attorney provided a substantive response. *See* Letter from J. Estes, III, counsel for Dr. Chen, to S. Tabackman, OE Staff (Oct. 9, 2013). Powhatan's attorney did not. *See* Letter from W. McSwain, counsel for Powhatan, to S. Tabackman, OE Staff (Oct. 8, 2013).

[61] 18 C.F.R. § 1b.19 (2014).

[62] *See* Letter from J. Estes, III, counsel for Dr. Chen, to S. Tabackman, OE Staff (September 24, 2014); Letter from W. McSwain, counsel for Powhatan, to S. Tabackman (September 24, 2014).

[63] Order to Show Cause, 149 FERC ¶ 61,261 at 1.

Powhatan and an additional $500,000 against Dr. Chen for trades executed through and on behalf of CU Fund.[64]

32. In the Order to Show Cause, the Commission directed Respondents to file an answer within 30 days showing cause why they should not be found to have violated section 222 of the FPA and section 1c.2 of the Commission's regulations by engaging in fraudulent UTC transactions in PJM's energy markets.[65] In addition, the Commission directed Respondents to show cause why the proposed penalties should not be assessed.[66] The Revised Order to Show Cause also directed Respondents to show cause why they should not be required to disgorge unjust profits with interest.[67] The Order to Show Cause also stated that Respondents must, within 30 days, elect either an administrative hearing before an Administrative Law Judge at the Commission prior to the assessment of a penalty pursuant to section 31(d)(2) of the FPA or, if the Commission finds a violation, an immediate penalty assessment by the Commission pursuant to section 31(d)(3)(A) of the FPA.[68] The Revised Order to Show Cause further allowed OE Staff to file a reply within 30 days of the filing of Respondents' answers.[69]

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[64] Revised Order to Show Cause, 149 FERC ¶ 61,263.

[65] Order to Show Cause, 149 FERC ¶ 61,261 at Ordering Paragraph (A). On December 31, 2014, the Commission extended the Respondents' deadline to respond to the Order to Show Cause to February 2, 2015. On January 30, 2015, the Commission denied the Respondents' request for a second extension of time but permitted the Respondents to file supplemental answers by February 9, 2015 in response to materials produced by OE Staff on January 29, 2015.

[66] *Id.* at Ordering Paragraph (B).

[67] Revised Order to Show Cause, 149 FERC ¶ 61,263. The recommended disgorgement amounts were as follows: (1) Powhatan: $3,465,108, plus interest, (2) CU Fund: $1,080,576, plus interest and (3) HEEP: $173,100, plus interest.

[68] 16 U.S.C. §§ 823b(d)(2) and 823b(d)(3)(A) (2012); Order to Show Cause, 149 FERC ¶ 61,261 at P 4.

[69] On January 2, 2015, OE Staff submitted non-public investigative materials to the Commission and, pursuant to the cover letter accompanying those materials, the Commission understands Respondents received them as well.

33. On January 12, 2015, Respondents submitted a joint notice of their election under section 31(d)(3)(A) of the FPA and the Order to Show Cause,[70] thereby electing an immediate penalty assessment if the Commission finds a violation. On February 2, 2015, Dr. Chen, HEEP, and CU Fund (Chen Answer) and Powhatan (Powhatan Answer) submitted answers to the Order to Show Cause (together, Respondents' Show Cause Answers). On February 3, 2015, Eric S. Morris submitted a non-party protest in this proceeding in support of the Respondents.[71] On February 9, 2015, Dr. Chen, HEEP, and CU Fund submitted a Supplemental Answer (Supplemental Answer). On March 2, 2015, OE Staff filed its Reply to Respondents' answers (Staff Reply). On March 18, 2015, Dr. Chen, HEEP, and CU Fund submitted an answer to the Staff Reply (Dr. Chen's second answer).[72] On April 1, 2015, PJM submitted comments in this proceeding.[73] On April 14, 2015, Dr. Chen submitted a response to PJM's comments. On April 23, 2015, Dr. Chen submitted a "Citation of Supplemental Authority."

34. As part of our adjudication of this matter, we have considered all accepted pleadings and attachments, as well as the investigative materials submitted to the Commission.

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[70] Order to Show Cause, 149 FERC ¶ 61,261 at Ordering Paragraph (D).

[71] Rule 214 of the Commission's Rules of Practice and Procedure provides that "[n]o person . . . may intervene as a matter of right in a proceeding arising from an investigation pursuant to Part 1b of this chapter." 18 C.F.R. § 385.214(a)(4) (2014). Therefore, Mr. Morris is not a party to this proceeding and we will not accept Mr Morris' protest.

[72] We note that the Order to Show Cause directed Respondents to submit answers in response to the Order and allowed OE Staff to submit a reply within 30 days of the Respondents' answer. The Order to Show Cause did not authorize a second answer in response to OE Staff's reply. Additionally, Rule 213(a) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a) (2014), prohibits an answer to a protest or an answer, unless otherwise permitted by the decisional authority. We are not persuaded to accept Dr. Chen's second answer or his later filed "Citation to Supplemental Authority."

[73] As we noted above, Rule 214 of the Commission's Rules of Practice and Procedure provides that "[n]o person . . . may intervene as a matter of right in a proceeding arising from an investigation pursuant to Part 1b of this chapter." 18 C.F.R. § 385.214(a)(4). Therefore, PJM is not a party to this proceeding and we will not accept PJM's comments or Dr. Chen's response to those comments.

III. Discussion

35. Section 222 of the FPA makes it unlawful for any entity to use a deceptive or manipulative device in connection with the purchase or sale of electric energy or the transmission of electric energy subject to the Commission's jurisdiction.[74] Order No. 670 implemented this prohibition, adopting the Anti-Manipulation Rule. That rule, among other matters, prohibits any entity from: (1) using a fraudulent device, scheme, or artifice, or making a material misrepresentation or a material omission as to which there is a duty to speak under a Commission-filed tariff, Commission order, rule, or regulation, or engaging in any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity; (2) with the requisite scienter; (3) in connection with the purchase, sale or transmission of electric energy subject to the jurisdiction of the Commission.[75] Under the Anti-Manipulation Rule, fraud includes, but is not limited to, "any action, transaction, or conspiracy for the purpose of impairing, obstructing, or defeating a well-functioning market."[76]

36. Pursuant to section 316A(b) of the FPA, the Commission may assess a civil penalty of up to $1 million per day, per violation against any person who violates Part II of the FPA (including section 222 of the FPA) or any rule or order thereunder.[77] In determining the amount of a proposed penalty, section 316A(b) requires the Commission to consider "the seriousness of the violation and the efforts of such person to remedy the violation in a timely manner."[78]

37. As discussed below, we find that the Respondents violated section 222(a) of the FPA and section 1c.2 of the Commission's regulations by engaging in fraudulent UTC transactions in the PJM energy market to receive large shares of MLSA payments that otherwise would have been allocated to other market participants.

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[74] 16 U.S.C. § 824v(a) (2012).

[75] 18 C.F.R. § 1c.2 (2014); *Prohibition of Energy Market Manipulation*, Order No. 670, FERC Stats. & Regs. ¶ 31,202, P 38, *reh'g denied*, 114 FERC ¶ 61,300 (2006) (Order No. 670); s*ee also Barclays Bank PLC, et al*., 144 FERC ¶ 61,041 (2013) (*Barclays*).

[76] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 50.

[77] 16 U.S.C. § 825o-1(b) (2012). Under section 3 of the FPA, "'person' means an individual or a corporation." *Id.* § 796(4).

[78] *Id.* § 825o-1(b).

A. Findings of Fact – Relevant UTC Trading Conduct

38. Dr. Chen's UTC trading in PJM can be broken into an introductory period in which he learned of the UTC product and three subsequent phases in which he evolved his strategies for trading that product. The introductory period extended from 2005 to 2007 when, as an analyst for Merrill Lynch, Dr. Chen first studied PJM's UTC product.[79] Dr. Chen's studies provided him with an understanding of the use of the UTC trading product as a tool for both physical and financial transactions. For physical transactions, Dr. Chen then realized that the UTC "provides a mechanism to hedge in [the] day-ahead market the price spread between the source node and sink node by specifying the maximum price you are willing to pay for the congestion."[80] For financial transactions, Dr. Chen described UTC products as "[y]ou're just trying to improve day-ahead and real-time price spreads . . . trying to make them converge, and so that the goal is to improve market efficiency."[81] Based on these understandings, Dr. Chen developed a model to forecast conditions under which UTC trading was likely to be profitable.[82] Specifically, Dr. Chen identified the most profitable nodes for both UTC import and export and developed a "similar day" model that enabled him to anticipate prices based on similar historical circumstances.[83] In 2007, Dr. Chen left Merrill Lynch to form his own company, HEEP, which would enable him to trade UTCs.[84]

39. In the first phase of Dr. Chen's UTC trading, extending from September 2007 through October 2009, Dr. Chen actively traded UTC products in PJM based on market fundamentals and the models he developed.[85] Here, Dr. Chen took a careful, low risk approach of what he called "directional bets."[86] Nearly all of his UTC bids in this first phase were under 100 MW, and his trades' profitability depended on favorable price

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[79] Chen Test. Vol. I Tr. 27:13-29:8, 30:15-31:10, 55:24-56:8.

[80] *Id.* at 31:18-21.

[81] *Id.* at 31:14-18.

[82] *Id.* at 28:10-18, 31:2-10.

[83] *Id.* at 73:19-74:20, 74:22-75:5.

[84] *Id.* at 27:21-28:4, 37:4-14, 70:20-71:4.

[85] *Id.* at 73:19-75:5.

[86] *Id.* at 51:3-6; Chen Test. Vol. II Tr. 105:15.

spreads.[87] Dr. Chen during this time also selected what he termed "correlated pairs," which he expected to typically move in similar ways, due to their geographic proximity.[88]

40. It was during this first phase that Dr. Chen met Mr. Gates and began trading UTCs on behalf of TFS, and later Huntrise, pursuant to their Advisory Agreements.[89] Throughout this time, Dr. Chen provided Mr. Gates with daily and monthly trading reports listing the UTC nodes he traded, hours and volumes traded, hourly prices, and other relevant information.[90] Additionally, on one occasion, Dr. Chen met with Mr. Gates (along with one of his partners) to deepen their understanding of UTC transactions and Dr. Chen's strategy in selecting particular nodes for trading.[91]

41. The second phase of Dr. Chen's UTC trading began in October 2009, after Dr. Chen discovered that he had received lucrative MLSA payments, and lasted through May 2010. In October 2009, Dr. Chen learned that his prior UTC transactions became eligible for retroactive MLSA distributions and he told Mr. Gates of this change.[92]

42. During this second phase, as he analyzed retroactive MLSA distributions, Dr. Chen altered his UTC trading strategy away from fundamentals-based spread trading to a strategy designed to capture increased volumes of MLSA payments.[93] In December 2009, Mr. Gates explained to his partners that although Dr. Chen's UTC trades had lost approximately $30,000 in November 2009, retroactive application of the MLSA

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[87] Chen Test. Vol. I Tr. 51:3-6, 78:5-19; Staff Report at 15, n.84.

[88] Staff Report at 15.

[89] *See, e.g.*, POW00000071 (TFS and HEEP execute an Advisory Agreement on May 1, 2008); Chen Test. Vol. I Tr. 39:12-40:2, 41:1-7; POW00000071 (TFS's interest in the Advisory Agreement was succeeded by Huntrise); K. Gates Test. Vol. I Tr. 55:20-56:5; Staff Report at 7 (Chen traded for Huntrise from June 2008 through May 2010).

[90] *See, e.g.*, POW00000488-91; POW0014142-46; POW00013949-53; POW00013998-14003; POW00000557 (K. Gates Test. Vol II Ex. 4).

[91] *See, e.g.*, POW0017336, POW00015175, K. Gates Test. Vol. I Tr. 19:13.

[92] Chen Test. Vol. I Tr. 44:17- 45:24, 90:10-12.

[93] Staff Report at 17; Chen Test. Vol. I Tr. 90:14-91:11, 93:15-18, 94:5-8.

meant that Huntrise would ultimately end up with a gain of over $400,000.[94] Dr. Chen then began to trade to cancel price spread risk and to profit from MLSA payments.[95] To obtain more MLSA payments, Dr. Chen ramped up the volumes of UTC transactions he executed on behalf of HEEP and Huntrise.[96] In addition, he used a new variation of his "correlated pairs" strategy, "which resulted in an internal transaction with nodal prices moving in tandem."[97] Because Dr. Chen's selected nodes had similar price movements, the price spread risk between those nodes was intended to be minimal, thereby shifting the economics more towards the difference between UTC's transactions costs and the MLSA payments.

43. Dr. Chen continued to share his insight about PJM's MLSA payments with Mr. Gates.[98] Based on his analysis, Dr. Chen concluded that MLSA would be much smaller in milder weather, too small to cover the transaction costs incurred in scheduling transmission service. However, MLSA payments would be larger in "the colder winter, hot summer" and that during those months, the MLSA payments would cover all transaction charges.[99]

44. By March of 2010, Dr. Chen told Mr. Gates that he expected to earn more from the MLSA-based strategy, especially given the approach of the summer months.[100] Dr. Chen noted that, prior to January 2010 he did not specifically target MLSA, but in February 2010, he "kicked up a notch to target" MLSA, and by March 2010, he "added

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[94] Email from Kevin Gates to Richard Gates, et al. (Dec. 8, 2009, 09:16:07 PM) (POW00008242).

[95] *See, e.g.*, Email from Alan Chen to Kevin Gates (March 5, 2010, 9:37 PM) (POW00016599) (explaining that in February 2010 he "kicked [it] up a notch targeting for [MLSA]" and that his UTC trades, with MLSA were "suddenly becoming risk-free (almost to the point) trades").

[96] Staff Report at 17 (citing Written Submission to Commission Investigation Staff on Behalf of Dr. Houlian Chen, at 14 (Dec. 13, 2010)).

[97] *Id.*

[98] Staff Report at 16-18; Chen Test. Vol. I 92:3-19.

[99] Chen Test. Vol. I Tr. 94:10-12.

[100] Email from Alan Chen to Kevin Gates (Mar. 5, 2010, 11:28:46 AM) (POW00011676).

some more."[101] He stated that he was "now using about 50% of the TLC ["Transmission Loss Credits" (another term for MLSA)] advantage in March 2010," and wanted to gradually lower it for April and May months and then increase it for the summer months.[102]

45. Both Dr. Chen and Mr. Gates understood the increasing centrality of the role played by the MLSA payments in Dr. Chen's UTC trading during the second phase. Dr. Chen's March 5, 2010 email emphasized that without MLSA, he "would not touch some of the trades . . . [b]ut with TLC as is, they are suddenly becoming risk-free (almost to the point) trades . . . ."[103] In the same communication, Dr. Chen told Mr. Gates that he would "take down a little bit starting tomorrow knowing that we are leaving a lot of money on the table."[104] In response, Mr. Gates directed Dr. Chen not to "take down tomorrow for my sake. I don't want to leave money on the table . . . ."[105] After reviewing Dr. Chen's February 2010 profit and loss report, Mr. Gates said in his email to his colleagues that he wanted to "scale-up and try to become rich."[106]

46. Mr. Gates also understood that Dr. Chen's UTC trades made their money through their transmission volumes not their underlying arbitrage economics. In a later email to Dr. Chen, Mr. Gates described the round-trip UTC trades as the ability to "make money by moving electricity around in a circle."[107] In order to "ramp-up" their participation in this new form of UTC trading and to avoid the potential liability of having to return MLSA payments should PJM decide to return to the days prior to MLSA payments, the

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

[102] *Id*.

[103] *Id.*

[104] *Id.*

[105] Email from Kevin Gates to Alan Chen (Mar. 5, 2010, 09:40:46 PM) (POW00016599).

[106] Email from Kevin Gates to Richard Gates et al. (Feb. 26, 2010, 08:20:52 AM) (POW00008242).

[107] Staff Report at 30 (quoting Email from Kevin Gates to Alan Chen (Aug. 12, 2010, 4:18 PM) (POW00004685)).

Gates brothers and other investors created Powhatan in March 2010.[108] Powhatan and Dr. Chen signed another Advisory Agreement, this time requiring Dr. Chen to trade 20 MWs on behalf of Powhatan for every one MW he traded on behalf of HEEP.[109]

47. Finally, the third phase of Dr. Chen's UTC trading, lasting from June 1, 2010 through August 3, 2010, began after an unexpected $176,000 loss Dr. Chen suffered during three hours on May 30, 2010, when one leg of his correlated pair experienced an unexpected price spike.[110] Following this loss, Dr. Chen developed his round-trip UTC trading strategy between the same two points (A-to-B, B-to-A). Round-trip trading would effectively eliminate any risk of losing (or earning) money based on price spreads because the matched trades' price spreads canceled each other out.[111] Dr. Chen's round-trip UTC strategy canceled price spread risk; profits instead came only from collection of MLSA payments, which themselves were now collected in a more effective way than they had been in phase two where some price spread risk was possible if the selected nodes did not move in tandem.

48. This approach proved so profitable that, on July 17, 2010, Dr. Chen formed CU Fund, a new company through which he could pursue this strategy without being bound to any contractual arrangement with Powhatan, thus allowing him to keep all of the proceeds from his trading on behalf of CU Fund for himself.[112] Of more than 2.6 million MWh of UTC transactions that Dr. Chen scheduled on behalf of CU Fund, never was one leg of a paired trade rejected.[113]

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[108] *Id.* at 22, n.128; Email from Kevin Gates to Richard Gates (Mar. 21, 2010, 7:55 AM) (POW00007990) (explaining that if PJM decided to take back the MLSA payments, Dr. Chen "could bankrupt his company so that he doesn't pay us. If so, we'd bankrupt our company and not pay PJM").

[109] *Id.* at 6; Staff Reply at 11.

[110] *See* Written Submission to Commission Investigation Staff on Behalf of Dr. Houlian Chen, at 15 (Dec. 13, 2010).

[111] Staff Report at 24-27.

[112] Chen Test. Vol. I Tr. 41:18-22, Chen Test. Vol. II Tr. 139:9-12, 139:13-19.

[113] Staff Report at 29; Chen Test. Vol. II Tr. 13:6-10.

B. Determination of Violation

1. Fraudulent Device, Scheme or Artifice or Course of Business that Operated as a Fraud

49. Fraud is the first element necessary to establish a violation of the Commission's Anti-Manipulation Rule.[114] Fraud is a question of fact that must be determined based on the particular circumstances of each case.[115] The Commission has explained that, under the Anti-Manipulation Rule, fraud includes, but is not limited to, "any action, transaction, or conspiracy for the purpose of impairing, obstructing, or defeating a well-functioning market."[116] Section 222 of the FPA states that:

> It shall be unlawful for any entity . . . directly or indirectly, to use or employ, 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 . . . in contravention of such rules and regulations as the Commission may prescribe as necessary or appropriate in the public interest or for the protection of electric ratepayers.[117]

In light of the broad language of section 222 of the FPA, our use of the term "well-functioning market" is not limited just to consideration of price or economically efficient outcomes in a market. Instead, we view the term to also broadly include consideration of "such rules and regulations as the Commission may prescribe as necessary or appropriate,"[118] which necessarily includes the rates, terms, and conditions of service in a market. Here, we find that intentionally subverting the allocation of payments provided by a tariff approved by the Commission constitutes interference with a "well-functioning market."

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[114] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 49.

[115] *Id.* P 50.

[116] *Id.*

[117] 16 U.S.C. § 824v (2012); *see generally* 16 U.S.C. §§ 824d, 824e.

[118] *Id.* § 824v.

50. OE Staff alleges that, from June 1, 2010 to August 18, 2010, Respondents engaged in a practice that operated as a fraud or deceit on PJM and PJM market participants and that Respondents' actions constituted a course of business that operated as a fraud, or a fraudulent device, scheme, or artifice, thereby violating FPA section 222 and the Anti-Manipulation Rule.[119]

51. As discussed below, based on the totality of evidence, we find that the Respondents' UTC trading during the Manipulation Period operated as a course of business to defraud and a device, scheme, or artifice to defraud the PJM market and market participants.[120] We find OE Staff's arguments are persuasive. The evidence demonstrates that Respondents placed high-volume round-trip UTC trades without regard to market fundamentals and with the intent to benefit not from the spread on UTC trades but solely from the MLSA payments, and we find those actions to constitute fraud. We also find that Respondents were engaged in wash trading, which the Commission has long recognized as fraudulent conduct. Moreover, we find that the Respondents had notice that the type of trading at issue here is fraudulent and violates FPA section 222 and our Anti-Manipulation Rule.

a. Course of Business to Defraud and Device, Scheme or Artifice to Defraud

i. Respondents' Show Cause Answers

52. Respondents claim that their Manipulation Period UTC transactions were legal, permissible, not fraudulent, and executed for a legitimate economic purpose.[121]

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[119] *See, e.g.*, Staff Report at 37-38; *see generally* Staff Reply *passim*.

[120] While OE Staff alleges that Respondents' actions constituted both a "course of business to defraud" and a scheme to defraud—each in violation of section 222 of the FPA and the Anti-Manipulation Rule—OE Staff's submissions frequently address the acts solely as a scheme. We find both occurred and rely on the same evidence to support each finding.

[121] Chen Answer at 13-29; Powhatan Answer at 4-8, 25-49. Respondents also provide twelve documents attached to the Chen Answer as "Expert Testimony," which are cited to by both the Chen Answer and Powhatan Answer. Chen Answer at 30 and *passim*; Powhatan Answer at 2 and *passim*. Respondents' Answers refer to twelve "expert reports." While we have reviewed those materials, we question the appropriateness of such statements as evidence. We do not find the reports persuasive; throughout this Order, we address various arguments raised therein and explain why they are rejected.

Respondents describe their trades as spread trades,[122] and argue that rather than lacking economic substance, Respondents affirmatively sought to profit from the trades in ways other than the MLSA payments.[123] In this regard, Respondents state that the trades not only had risk and exposure to congestion profit and loss, but that the trades were entered into to potentially profit from congestion revenues, especially should one of the legs of the transaction break (i.e., fail to clear) and hit a "home run."[124]

53. Respondents point out that Dr. Chen sometimes bid $35/MWh, rather than the maximum of $50/MWh, on certain transaction legs. Respondents allege that trading at less than $50/MWh increased the likelihood that the particular bid on one leg would not clear, proving that Respondents sought to expose themselves to risk and profit beyond the MLSA payments.[125] Respondents also state that not all of their Manipulation Period UTC trades were volumetrically-matched and therefore were exposed to risk.[126] Moreover, Respondents note that their UTC trades were especially exposed to congestion outcomes in times of stress such as the "Polar Vortex" of January 2014.[127] Respondents claim that had Dr. Chen's round-trip trades been in place during the 2014 Polar Vortex, at

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[122] Chen Answer at 20-29; Powhatan Answer at 7, 19, 45. *See also* Statement of Professor Larry Harris at 2-3; Affidavit of Stewart Mayhew (November 6, 2013) at 9, 15-17, 26-28.

[123] *See, e.g.*, Chen Answer at 3-8, 20-29; Powhatan Answer at 25-29.

[124] Chen Answer at 4-5; Powhatan Answer at 25-26. *See also* Affidavit of Houlian Chen, at 1-5 (Feb. 2, 2015) (Chen Affidavit) (explaining the "one leg breaking" element of his strategy); Affidavit of Dr. Craig Pirrong, at 8 (Dec. 8, 2010); Affidavit and Appendices of Richard D. Tabors, PhD., at 12 (Oct. 21, 2011). Powhatan describes the "home run" strategy as a "'spread trading' strategy in which [Dr. Chen] hoped to hit it big (or hit a 'home run') if one of the legs of his trades did not clear." Powhatan Answer at 25.

[125] Chen Answer at 23-29; Powhatan Answer at 25-29.

[126] Chen Answer at 16; Powhatan Answer at 33-34.

[127] Polar Vortex refers to the extreme weather conditions experienced in the Northeast Region in January 2014, impacting the wholesale energy markets, including PJM.

least one leg would have broken for each of the five paired nodal combinations he used.[128] Thus, Respondents posit that the possibility of one leg breaking was present.

54. Respondents assert that their UTC trades were not deceptive and that other traders, PJM, and the PJM IMM could see the trades.[129] Moreover, Respondents argue there is no evidence that their trades involved any false statements, active concealment, or explicit tariff violations.[130] In that regard, Respondents argue that their trading is unlike Enron's "Death Star" trades during the Western Energy Crisis.[131] Powhatan reasons that the Death Star trades were deceptive because the California Independent System Operator, Inc. (CAISO) could only see the portion of the scheme that occurred in California, whereas here, Respondents did not hide their transactions, strategy, or intent.[132] Dr. Chen distinguishes his trading from Enron's Death Star trades by noting that his trades did not involve physical flows of power, false schedules, or misrepresentations.[133] Moreover, Dr. Chen likens his UTC trading to the trading in the *Lake Erie Loop Flow* order, in which the Commission found there was no concealment because the transactions were openly placed and there was no deception or manipulation because system operators could see accurate, identifying information regarding the transactions.[134]

55. Respondents also claim that their UTC trades had a legitimate economic purpose to profit, including by the collection of MLSA payments, which they claim were as much a part of the pricing incentive as other information, such as transaction costs and other

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[128] Chen Answer at 7, 24-25.

[129] *See e.g.* Chen Answer at 15, Powhatan Answer at 45 (citing Statements of David Hunger at 4 and Chester S. Spatt at 8).

[130] Chen Answer at 15.

[131] Powhatan Answer at 44-45.

[132] *Id.* at 45.

[133] Chen Answer at 29-30.

[134] *Id.* (citing *New York Indep. Sys. Operator, Inc.*, 128 FERC ¶ 61,049 (*Lake Erie Loop Flow*), App. A, Non-Public Investigation into Allegations of Market Manipulation in Connection with Lake Erie Loop Flows at 21-22 (2009)).

potential profit making opportunities.[135] In that respect, Respondents claim that the Commission previously found that the existence of a pricing incentive suggests a lack of fraudulent intent.[136] Similarly, Respondents assert that the Commission previously determined that offsetting energy transactions entered into for the sole purpose of accruing benefits associated with renewable energy credits did not constitute market manipulation.[137] Respondents also note that, in a separate case, wind generators had an economic incentive to lose money on electricity sales by offering zero or negative bids into their respective markets to capture the wind energy production tax credit. In that instance, Respondents argue the Commission acknowledged that certain resources are incentivized to make negative bids to gain revenue through the credits.[138]

56. Further, Powhatan states that "maybe [Dr Chen] was, maybe [Dr.Chen] wasn't" exploiting a loophole in the PJM Tariff through his trading.[139] Nevertheless, Powhatan argues that exploiting loopholes is a "time-honored tradition," that market participants do the "market and rule makers a service" by exposing inefficiencies, and that a former Acting Director of the Office of Enforcement agrees that exploiting loopholes does not constitute fraud.[140] Dr. Chen disagrees, and concludes that this matter is "not about exploiting a loophole."[141] Respondents all agree, however, that even if they were exploiting a loophole, such behavior is neither fraudulent nor illegal.[142]

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[135] *Id.* at 16-19, 33; Powhatan Answer at 3, 4-8, 28-29, 31-32, 37-38; Electricity Market Design Flaws and Market Manipulation, William W. Hogan, at 8 (Feb. 3, 2014); Report of Chester S. Spatt (Nov. 4, 2013); Chen Answer at 16-17, 33.

[136] Powhatan Answer at 31 (citing *Lake Erie Loop Flow*, 128 FERC ¶ 61,049, App. A at 21-22 at 22, 24).

[137] *Id.* at 32 (citing *Idaho Wind Partners 1, LLC*, 134 FERC ¶ 61,217, at PP 6, 24 (2011) (*Idaho Wind*)).

[138] *Id.* at 32 (citing *Midwest Indep. Transmission Sys. Operator, Inc.*, 134 FERC ¶ 61,141, at P 83 (2011)).

[139] *Id.* at 4.

[140] *Id.* at 5-7.

[141] Chen Answer at 43.

[142] *Id.* at 8-9, 34-35; Powhatan Answer at 3-8.

57. Finally, Respondents contend that their trades caused no harm.[143] Specifically, the Respondents argue that no entity is entitled to any particular share of the MLSA payments.[144]

ii. OE Staff Report and Reply

58. OE Staff alleges that Respondents manipulated Commission-regulated markets by implementing a strategy of placing high-volume, volumetrically-matched, round-trip UTC trades for no purpose other than to receive MLSA payments, without regard to the relationship between supply and demand fundamentals, and not for the purpose of arbitraging price spreads for profit.[145] OE Staff alleges this UTC trading was done at the expense of other market participants.[146]

59. OE Staff avers that Dr. Chen, trading on behalf of Powhatan, HEEP and, later, CU Fund, conceived of a fraudulent scheme in connection with PJM's UTC product and that he communicated the details of that scheme to Powhatan's principals. In addition, OE Staff alleges that Powhatan's principals knowingly encouraged and approved of Dr. Chen's trading and increased their stake in the scheme by increasing the volume of trades Dr. Chen was obligated to trade on Powhatan's behalf.[147]

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[143] Chen Answer at 67; Powhatan Answer at 47-48. Respondents "incorporate by reference" prior submissions into their Answers to the Order to Show Cause. *See* Chen Answer at 11 n.21; Powhatan Answer at 3 n.2. The Commission addressed this practice again recently. *Barclays*, 144 FERC ¶ 61,041 at n.63. We have made clear that arguments not explicitly set forth in Respondents' Answers are not "salvaged" by the "incorporation by reference" of arguments and evidence from prior submissions. *Id.* Our precedent is clear and we will follow that precedent here: "to the extent [Respondent] simply claims to incorporate such defenses by general reference, we may properly exercise our discretion to decline to consider these additional arguments." *Barclays*, 144 FERC ¶ 61,041 at n.63.

[144] Powhatan Answer at 18.

[145] Staff Report at 36-74; Staff Reply at 56.

[146] Staff Report at 12-46; Staff Reply at 56.

[147] Staff Report at 22, 25-26, 28; Staff Reply at 10-11. Dr. Chen's solely-controlled HEEP and CU Fund also were aware of and supported the strategy.

60. OE Staff notes that Respondents' round-trip UTC trading evolved and differed from the UTC trading strategy Respondents engaged in during earlier timeframes.[148] Respondents' UTC trading strategy exhibited its first marked change after October 2009, when Dr. Chen and TFS/Huntrise's principals discovered they were receiving MLSA payments and began developing a scheme to access those payments to their benefit. OE Staff charges that Respondents developed the round-trip UTC trading strategy in direct response to large losses that their non-round-trip UTC trades incurred on May 30, 2010. OE Staff alleges that Respondents' round-trip trading scheme was "as far from the [d]ay-[a]head/[r]eal-[t]ime price arbitrage as one could go."[149]

61. In short, OE Staff states that the UTC trades themselves were uneconomic, lacked economic substance and were placed to garner MLSA payments. OE Staff notes that Dr. Chen sometimes placed directional, one-way bets in addition to and on the same path as one leg of the volumetrically matched, round-trip UTC trades.[150] OE Staff explains that to the "extent that Respondents trades took 'a significant directional bet,' staff has not included those trades in calculating harm, penalties, or disgorgement."[151]

62. OE Staff argues that there is no contemporaneous evidence to support Respondents' defense of a "home run" strategy, as there is no indication that Respondents intended to make trades premised on the economics of legs failing to clear.[152] OE Staff further argues that Respondents' reliance on the Polar Vortex to support the existence of a risk is inapposite because Respondents' trading occurred four years before the Polar Vortex.[153] OE Staff states there is no evidence that Dr. Chen had any expectation that what happened four year later during the 2014 Polar Vortex would occur in his 2010 summer trading.[154]

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[148] Staff Report at 17; Staff Reply at 10-11. Prior to Powhatan's establishment in March 2010, Powhatan's principals/investors traded through TFS and Huntrise.

[149] Staff Report at 24.

[150] Staff Reply at 13 n.25, 43.

[151] *Id.* at 13 n.25

[152] *Id.* at 53, 56.

[153] *See, e.g.*, Staff Reply at 22.

[154] Staff Reply at 22.

63. OE Staff further argues that profitability alone "does not inoculate trading from any potential manipulation claim,"[155] but that any profits Respondents earned resulted only from the MLSA payments. Staff avers that, rather than a valid measure of profitability, this represents the benefit from engaging in manipulative trades.[156] Moreover, OE Staff argues that Respondents' reliance on *Idaho Wind* is inapposite because the petitioners in that matter requested Commission approval prior to taking any action.[157]

64. OE Staff also argues that Respondents' round-trip UTC trading scheme was similar to Enron's Death Star, and that Respondents fail to distinguish their scheme in any meaningful way.[158] OE Staff asserts that Death Star was a circular scheduling strategy in which traders made money by moving electricity in a circle from A-B/B-A, resulting in no net position and no possibility for profit or loss from market prices. OE Staff avers that the Death Star strategy was profitable so long as the amount of credits received exceeded the cost of scheduling the transactions. OE Staff argues that Respondents similarly engaged in round-trip UTC trading from A-B/B-A that resulted in no net position and, thus, no possibility for profit or loss from market prices. The Respondents' strategy was profitable so long as the MLSA payments exceeded transaction costs.[159] OE Staff avers that in the current and Death Star matters, the trades were presented in a manner that appeared legitimate but instead disguised the transactions' true purpose. OE Staff further states that both the current and Death Star matters involved trading offsetting pairs to capture revenue without providing the corresponding benefit to the market.[160] Further, OE Staff rejects Respondents' argument that the Commission effectively reversed its condemnation of Death Star in the *Lake Erie Loop Flow* order. OE Staff argues that in *Lake Erie Loop Flow*, the market participants

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[155] Staff Report at 54 (quoting *Deutsche Bank Energy Trading, LLC*, 142 FERC ¶ 61,056, at P 20 (2013); other citations omitted).

[156] *Id.*

[157] Staff Reply at 40.

[158] Staff Report at 47-48; Staff Reply at 31-37.

[159] Staff Reply at 32.

[160] Staff Report at 48-49; Staff Reply at 33-34.

made spread trades based on the differences in price at different locations whereas here Respondents attempted to eliminate exposure to price differences.[161]

65. OE Staff further alleges that Respondents' trades were sham trades placed to appear as if they were legitimate spread trades.[162] OE Staff states that, contrary to the purpose of legitimate UTC spread trades, Respondents' round-trip trades neither hedged physical transactions nor promoted market efficiency by converging day-ahead and real-time prices.[163] OE Staff also states that Respondents knew that their trades provided the market with none of the benefits of arbitrage.[164] Instead, OE Staff avers that the "massive volume of sham trades" were placed to "lay a claim to" the MLSA payments without incurring the risk of spread trading.[165]

66. OE Staff rejects Respondents' suggestion in testimony and emails that trading to benefit from MLSA payments amounted to simply exploiting a loophole in the PJM Tariff.[166] OE Staff argues that Respondents misconstrue the relationship between market rules, like tariffs, and the Commission's anti-manipulation authority and the precedent arising from that authority.[167] OE Staff notes that the Commission need not decide whether it is permissible to exploit something characterized as a loophole, because it is a violation of the Commission'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."[168]

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[161] Staff Reply at 37(citing *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)).

[162] *Id.* at 2.

[163] Staff Report at 2.

[164] Staff Reply at 2.

[165] *Id.* at 1.

[166] *See, e.g.*, Staff Report at 21, 27, 32, 77, nn.354, 367.

[167] Staff Reply at 50.

[168] *Id.* at 51.

67. On the issue of harm, OE Staff avers that Respondents' round-trip trades impaired, obstructed, and defeated a well-functioning market.[169] Specifically, OE Staff alleges that, as a consequence of Respondents' increased trading volume to garner more MLSA payments, Respondents also reserved "huge volumes of transmission capacity."[170] OE Staff notes that during the Manipulation Period, Respondents reserved 10 percent of all the reserved transmission capacity in PJM and by "hoarding" that transmission Respondents prevented other market participants from using the transmission for legitimate purposes to enter into real physical and arbitrage-based trades.[171]

68. OE Staff also avers that by collecting MLSA payments related to their illegitimate trades, Respondents impaired the market and took those funds from other PJM market participants who, but for Respondents' fraud, would have received larger shares of the MLSA payments. OE Staff emphasizes that the Respondents' conduct led to over $10 million in harm.[172] OE Staff provides additional information from PJM which demonstrated that:

> [H]arm from [Respondents'] trading was both widely distributed throughout PJM and significantly concentrated on certain load-serving entities. In fact, while hundreds of market participants were affected in some way, more than 20 market participants were deprived by [Respondents'] round-trip UTC trades of more than $100,000 each and four lost more than $500,000 each, including PECO Energy Company ($569,976), Commonwealth Edison Company ($656,933), Dominion Virginia Power (LSE) ($1,147,087) and Appalachian Power Company (AEP Generation) ($1,450,972).[173]

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[169] *Id*. at 1-2.

[170] Staff Report at 29.

[171] Staff Reply at 2, 45, 66 n.215 (citing Picard Test. Tr. 84:20-88:32).

[172] Staff Report at 2, 32, 81.

[173] OE Staff's Answer to Respondents' Request for Extension of Time, at 9 (filed January 29, 2015). OE Staff filed a corrected version of this material on February 2, 2015.

iii. Commission Determination

69. We find, based on the totality of evidence presented, that Respondents engaged in a course of business to defraud and a device, scheme, or artifice to defraud the PJM Market. As discussed in greater detail below, we find that: (i) Respondents' arguments are not persuasive; and (ii) OE Staff's allegations provide sufficient evidence that Respondents' actions violated section 222 of the FPA and the Anti-Manipulation Rule. The evidence demonstrates that Respondents engaged in round-trip UTC transactions not for hedging or arbitraging price spreads but instead to receive large shares of MLSA payments that otherwise would have been allocated to other market participants. This manipulative conduct had widespread effects because of Respondents' high volumes of round-trip UTC trades. PJM advised OE Staff that for the month of July 2010, the hourly UTC transaction requests for HEEP, Powhatan, and CU Fund were almost 9 million MWh.[174] Respondents neither dispute that they executed their round-trip trades during the Manipulation Period to collect MLSA payments, nor do they claim that they would have entered into the trades without the MLSA payments.[175]

(a) Communications, testimony, and other evidence demonstrate the existence of a scheme to defraud

70. We find that communications, testimony and other evidence demonstrate that Respondents did not engage in UTC trading for the arbitrage and convergence purposes, but instead to maximize MLSA payments that, but for their trades, would have gone to other market participants. For example, Dr. Chen explained to Mr. Gates "[o]n 5/30 we lost a lot of money on the one pair of trades and I tried to find a better hedged paired [sic] of trades. That's when I thought of using fully hedged paired trades."[176] Mr. Gates

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[174] PJM's Jan.11, 2011 Response to Office of Enforcement's Second Data Request to PJM, Response No. 6.

[175] Staff Reply at 4. In fact, Dr. Chen told Mr. Gates in March 2010, that "[w]ithout [MLSA], I would not touch some of the trades and/or would not put in large volumes for some of the trades. But with [MLSA] as is, they are suddenly becoming risk-free (almost to the point) trades." Email from Alan Chen to Kevin Gates (March 5, 2010, 9:37 PM) (POW00016599).

[176] *See* Email from Alan Chen to Kevin Gates (Aug. 24, 2010, 06:20:38 PM) (POW00004874).

understood and supported Dr. Chen's actions and strategy.[177] He testified that "I remember [Dr. Chen] saying . . . very early on during Powhatan's trading, that he was very clearly trying to eliminate that [congestion spread], and he was going from A to B-B to A."[178] Mr. Gates further testified that, with the round-trip trading strategy, Dr. Chen "was trying to remove the day-ahead/real-time spread" and the strategy was akin to a "monkey . . . throwing darts."[179] Thus, together, the Respondents understood that trading A-B/B-A would necessarily result in no profits on the spread—in fact, Mr. Gates recognized, when transaction costs were taken into account "[y]ou were going to absolutely lose money on that trade."[180]

71. We find Respondents also knew their trades were profitable only due to MLSA payments. For example, during the Manipulation Period, Dr. Chen informed Mr. Gates that "we are losing quite a bit of money and for the whole day it is probably approaching -$60k. But we are still making more than $40K up to date (due to the updated TLC [MLSA] data of 6/2: making $63 instead of losing $56,742). I think optimistically we could have made more than $100K once the TLC data are published."[181] Two days later, Mr. Gates informed his partners that "I think that everyone should expect to have the ability to double their investment in Powhatan."[182]

72. These communications and testimony show that Respondents understood that their round-trip UTC trades had little price risk by design, were not undertaken to arbitrage price spreads, were certain themselves to lose money, and were placed only to create the illusion of volume trading to obtain transmission and thereby earn MLSA payments that otherwise would have gone to other market participants. Dr. Chen's description of his trades to Mr. Gates as "fully hedged paired trades" demonstrates that Respondents

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[177] As a primary owner of Powhatan, Mr. Gates' statements and communications may be ascribed to Respondent Powhatan.

[178] K. Gates Test. Vol. II Tr. 178:12-15. These communications similarly provide evidence of scienter. *See* discussion *infra* PP 128-140.

[179] K. Gates Test. Vol. II Tr. 216:13-217:3, 309:20-21.

[180] *Id.* 175:2-4.

[181] Email from Alan Chen to Kevin Gates (June 7, 2010, 9:57 PM) (POW00003761).

[182] Email from Kevin Gates to Richard Gates, et al. (June 9, 2010, 03:04:45 PM) (POW00004350).

intended their strategy to be as risk free as energy trading could get: the trades in Dr. Chen's estimation were not only "fully hedged," but represented opposite sides of the same spread, or "paired trades." By engaging in a real "hedged" strategy, Dr. Chen could have provided Respondents some protection against price risk. However, by employing what he termed a "paired" strategy, Dr. Chen eliminated as much price risk as possible—short of not trading at all. We also find unavailing Respondents' argument that Dr. Chen affirmatively sought risk on these round-trip trades and economically wanted to hit a "home run" through one leg breaking.[183] The contemporaneous communications, and the other evidence in this proceeding, do not bear this out. In fact, we conclude he sought the opposite result as we explain further below.

73. We similarly reject Dr. Chen's view that Respondents' trades are nothing more than "ubiquitous" acts by market participants to "hedge congestion risks. . . ."[184] Respondents' trades were not a hedge; the trades were a nullity. By immediately nullifying the A-B path with a B-A path, there was no transaction left to hedge. Essentially, Dr. Chen argues that Respondents' trades "hedged" the underlying trade by completely reversing the risk in the underlying trade with a trade of the exact same product, at the exact same time, in the exact same volume, all in the opposite direction. Such trades are inconsistent with any definition of a "hedge." They are, however, consistent with the definition of a "wash trade" in our markets.[185]

(b) <u>Pattern: the difference between trades before and after MLSA payments</u>

74. We find Respondents' UTC trading pattern before they became aware of the MLSA payments was decidedly different from their UTC trading pattern after they became aware of those payments.[186] In short, Dr. Chen moved from arbitraging price

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[183] *See* Chen Answer at 4-7, 16, 20-21 n.47, 22, 25, 50 (referring to possibility of a leg breaking); Powhatan Answer at 25-27 (citing Expert Reports).

[184] Chen Answer at 3. Dr. Chen asserts: "[w]e do not know of any prior case in which the Commission has said that it is problematic – not to mention fraud-based market manipulation – to reduce or eliminate exposure to congestion gains and losses in RTO day-ahead and real-time markets." *Id.*

[185] *See* discussion *infra* PP 103-107.

[186] *See* Staff Report at 15, 17-18; Chen Test. Vol. I Tr. 51:3-6, 73:19-75:5; Email from Alan Chen to Kevin Gates (March 5, 2010, 9:37 PM) (POW00016599) (explaining that in February 2010 he "kicked [it] up a notch targeting for [MLSA]" and that his UTC trades, with MLSA were "suddenly becoming risk-free (almost to the point) trades");

(continued...)

spreads toward risk-free UTC trading whose purpose was to maximize MLSA payments through high-volume round-trip UTC trading.

75. During Dr. Chen's introductory period, he learned that the purpose of the UTC product as a financial transaction is to "improve the day-ahead and real-time price spreads . . . trying to make them converge, and so that the goal is to improve market efficiency."[187] From 2007 to 2009, during his first phase of trading, Dr. Chen based his trading on market fundamentals, using historical spreads and historical similar day models. Dr. Chen took a careful, low risk approach, bidding in small volumes under 100 MW, and his profitability depended on favorable changes in congestion price between the day-ahead and real-time markets. However, Dr. Chen abandoned this strategy after discovering the MLSA payments. He then in his second phase of UTC trading sought to cancel price spread risk and profit solely from MLSA payments, which he ultimately perfected as his round-trip trading scheme in his phase three strategy.[188] This pattern of trading demonstrates that, with increasing trading experience, Respondents honed their scheme to defraud PJM and PJM's market participants. This pattern further supports our conclusion of fraud in this matter.[189]

(c) <u>Respondents' round-trip UTC trades were uneconomic and contrary to market design purpose</u>

76. We also find that Respondents' round-trip UTC trades were routinely uneconomic and contrary to the market design purposes for which PJM offered the UTC product. Specifically, we find that not only were Respondents' round-trip UTC trades routinely unprofitable when measured from a price arbitrage perspective, but the evidence demonstrates that Respondents expected no more from them.[190] This lack of profit from

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Written Submission to Commission Investigation Staff on Behalf of Dr. Houlian Chen, at 14 (Dec. 13, 2010).

[187] Chen Test. Vol. I Tr. 31:14-18; *see also* discussion *supra* P 38.

[188] *See, e.g.*, K. Gates Test. Vol. II Tr. 178:12-15; Chen Test. Vol. I Tr. 66:9-15; Chen Test. Vol. II Tr. 94:10-11.

[189] *See Barclays*, 144 FERC ¶ 61,041 at PP 7, 32, 38-41, 60, n.152.

[190] *See* K. Gates Test. Vol. II Tr. 175:2-4; Email from Alan Chen to Kevin Gates (June 7, 2010, 9:57 PM) (POW00003761). We understand that Respondents argue that they were attempting to profit from the actual trading (irrespective of the MLSA) or that the round-trip trades were risky enough to expose them to potential profits if one of the

(continued...)

economic fundamentals was an anticipated by-product of Respondents' risk-canceling, round-trip trading. Further, Respondents were required to purchase transmission service to effectuate their UTC trades and be eligible for MLSA. As a result, the profit and loss calculation associated with such round-trip UTC trades, absent MLSA payments, necessarily resulted in a net loss to Respondents. We agree with the underlying PJM IMM's referral that these trades had "no fundamental economic rationale or value."[191]

77. The Commission has previously noted that while "profitability is not determinative on the question of manipulation and does not inoculate trading from any potential manipulation claim,"[192] it "is an indicium to be considered among the overall facts that the Commission examines when considering a potential violation of its Anti-Manipulation Rule, but standing alone it is neither necessary nor dispositive."[193] Here, Respondents' underlying round-trip UTC trading (i.e., from the spread product, not the MLSA payment) was consistently and purposefully uneconomic which supports the conclusion that a course of business and a scheme to defraud existed.[194]

78. While Respondents argue that the round-trip trades were profitable, we find they only became profitable because of the MLSA payments. That the MLSA payments were not, and should not be considered, part of the underlying UTC trade is clear: UTCs were created as a tool for hedging congestion price risk associated with physical transactions,[195] and later became a way for market participants to profit by arbitraging the

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legs of the trades "broke." Chen Answer at 4-7, 16, 20-21 n.47, 22, 25, 50 (referring to the possibility of a leg breaking); Powhatan Answer at 25-27. As we set forth below, this argument is inconsistent with communications contemporaneous to the strategy and its development and with other evidence. *See* discussion *infra* PP 86-93.

[191] IMM Referral at 3.

[192] *Deutsche Bank Energy Trading, LLC*, 142 FERC ¶ 61,056 at P 20.

[193] *Barclays*, 144 FERC ¶ 61,041 at P 43.

[194] As Dr. Chen explained to Mr. Gates, "[t]he volumes have been increasing pretty significantly, but the risks associated with the trades are actually lower than before. . . . Without [MLSA], the transaction costs would absorb them and deem them unprofitable." Email from Alan Chen to Kevin Gates (March 5, 2010, 8:52 PM) (POW00012123).

[195] *PJM Interconnection, L.L.C.*, 144 FERC ¶ 61,121 at P 3; *see also Calif. Indep. Sys. Operator Corp.*, 143 FERC ¶ 61,087, at P 6 (2013) (noting that market participants can use virtual transactions to "hedge financial expectations").

price differences between two nodes in the day-ahead and real-time markets.[196] Dr. Chen recognized this early on in his career. He understood that for financial transactions, the purpose of the UTC product is to ". . . . improve 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."[197]

79. We find that Mr. Gates similarly understood that financial UTC transactions were traded based on market fundamentals and market views of the spread between day-ahead and real-time prices. He testified, for example, that before Dr. Chen learned of his eligibility for MLSA payments, Dr. Chen traded UTCs based on his "ability to model congestion [and] his ability to model the day-ahead versus the real-time spread."[198]

80. Respondents' trades were neither consistent with how the UTC product historically traded nor aligned with the arbitrage purpose of those trades. Respondents' round-trip UTC trades did not "converge" the day-ahead and real-time spreads and, applying Dr. Chen's logic, did not "improve market efficiency." Moreover, we conclude that the UTC products' history and purpose demonstrate that engaging in round-trip UTC trades with the MLSA payments as the sole or primary price signal is improper. Speculative UTC trades placed to arbitrage price spreads will have as their sole or primary price signal the price risk of the underlying UTC spread and will be placed with the purpose of profiting based on the direction of the spread. Yet, despite the market purpose behind UTCs and despite Dr. Chen's and Mr. Gates' articulated understanding of that purpose,[199] Respondents engaged in round-trip UTC trades that had no relationship to this purpose.

81. We reject Powhatan's reliance on prior Commission orders to claim that any profit-driven actions in response to pricing incentives are not fraudulent. Those orders are distinguishable and involved trading behavior that differed significantly from Respondents' conduct. The *Lake Erie Loop Flow* matter involved responses to price signals, created by market fundamentals that indicated that it was cheaper to schedule energy to flow clockwise around Lake Erie than to flow it in the more direct, counterclockwise path. Those transactions were executed to lower market participants'

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[196] S*ee PJM Interconnection, L.L.C.*, 144 FERC ¶ 61,121 at P 19.

[197] Chen Test. Vol. I Tr. 31:14-18.

[198] K. Gates Test. Vol. II Tr. 172:25-173:2.

[199] *See, e.g.*, Chen Test. Vol. I Tr. 31:14-18; K. Gates Test. Vol. II Tr. 172:25-173:2.

costs based on market fundamentals for transactions they already sought to engage in, and were not "created by any intentional actions of market participants to obstruct an otherwise well-functioning market."[200] That differs significantly from Dr. Chen's risk-free round-trip UTC trades, which were devoid of independent economic substance and designed solely to capture MLSA payments.

82. The *Idaho Wind* case cited by Respondents is also distinguishable on several grounds. *Idaho Wind* involved (1) a bundled sale of energy and renewable energy credits (RECs) from eleven wind Qualifying Facilities (QFs) to a third party at market-based rates; (2) the QFs' instantaneous buy-back of only the energy (i.e., the same electric energy generated by the QFs but stripped of their RECs) pursuant to market-based rate authority at the same delivery point and same price; and (3) the subsequent sale of the QF output to Idaho Power pursuant to the Public Utility Regulatory Policies Act of 1978 (PURPA) mandatory purchase obligation at the avoided cost rate authorized by the Idaho Public Utilities Commission. The Commission stated explicitly that its conclusion was "based upon the facts presented and representations by Idaho Wind. . . . Any different or additional facts might lead us to a different determination."[201] First, *Idaho Wind* did not involve trading of virtual transactions in an RTO market. Second, the transaction involved entities (the QFs) that already possessed the benefit in question (the RECs) who were trying to sell that benefit. Idaho Wind did not have to engage in uneconomic trading designed to access the "benefit" like Respondents did. Finally, Idaho Wind sought declaratory judgment from the Commission before engaging in any transaction, which the Commission concluded: "suggest[s] that there is neither a fraudulent scheme nor scienter."[202] Nothing in the record before us here suggests that the comparison of the case to this proceeding is apt, or that Respondents consulted the Commission before engaging in the trading at issue.

83. Powhatan's reliance on *Midwest Independent Transmission Operator, Inc.* is similarly misplaced.[203] Powhatan claims that "[t]he Commission has acknowledged that certain resources are incentivized to make negative bids in order to gain revenue via [production tax credits] and has never suggested there is anything fraudulent about this

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[200] *Lake Erie Loop Flow*, 128 FERC ¶ 61,049, App. A at 26.

[201] *Idaho Wind*, 134 FERC ¶ 61,217 at P 25.

[202] *Id.* P 24.

[203] Powhatan Answer at 32 (citing *Midwest Indep. Transmission Sys. Operator, Inc.*, 134 FERC ¶ 61,141, at P 83 (2011)).

practice."[204] Powhatan is mistaken. In the MISO matter, the Commission ordered that resources should be settled in a manner that prohibited the creation of such an incentive through settlement at a different dollar value. Specifically, we found that it was appropriate for Dispatchable Intermittent Resources to be settled at the lower of the resource's offer price or the market price "even in the event that such resources submit negative offer prices."[205] We reasoned: "[s]ince any such negative offer prices would reflect the resources marginal cost for producing energy, settling excessive energy credits at $0 or at a non-negative market price instead of the resources negative offer prices would provide an incentive for Dispatchable Intermittent Resources to overproduce and gain revenues in excess of their marginal costs (e.g., via production tax credits)."[206]

84. We also reject Powhatan's argument that it did not engage in fraud because it had a legitimate economic purpose for its trades.[207] Here, the legitimate "economic" purpose Powhatan asserts is "profiting from each of the trades, which included the collection of transmission loss credits."[208] As we explained above, these trades were routinely uneconomic, and the idea that Respondents intended to hit a "home run" or profit from the trades in any way except from the MLSA payments is inconsistent with contemporaneous communications, testimony, and other evidence.[209]

85. Moreover, even if the notion that Respondents wanted to earn profits from the trades themselves (beyond earning MLSA payments) was supported by the evidence, and even if such statement was enough to substantiate a "legitimate business purpose" (which it is not), when promulgating the Anti-Manipulation Rule the Commission "rejected

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[204] *Id.* at 32.

[205] *Midwest Indep. Transmission Sys. Operator, Inc.*, 134 FERC ¶ 61,141 at P 83.

[206] *Id.* Of course, such an argument – i.e., essentially, earning a profit is in and of itself a legitimate economic purpose, and the round-trip UTC trades and the associated MLSA payments at issue here were undertaken to earn a profit – would, if accepted, justify any and all fraud because fraud is almost invariably undertaken to make money.

[207] Powhatan Answer at 31.

[208] *Id.*

[209] *See* discussion *infra* PP 86-93.

'calls for inclusion of a 'legitimate business purpose' affirmative defense.'"[210] The Commission explained that:

> [T]he reasons given by an entity for its actions are part of the overall facts and circumstances that will be weighed in deciding whether a violation of the anti-manipulation regulation has occurred. Consequently, an entity's business purposes will be relevant to an inquiry into manipulative intent, but a "legitimate business purpose" is not an affirmative defense to manipulation. And that is true here.[211]

We therefore reject Respondents' argument.

(d) <u>Respondents had no "home run" strategy</u>

86. Respondents argue that their round-trip trades were part of a trading strategy under which Dr. Chen hoped to "hit it big (or hit a home run)."[212] In essence, Respondents' argument is that their round-trip UTC trades were exposed to substantial risk because at any time one leg of the two-leg trade might not clear (i.e., leg A-B might clear where leg B-A did not). Respondents aver that this would "expose Dr. Chen and

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[210] *Barclays*, 144 FERC ¶ 61,041 at P 61 (quoting *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 114 FERC ¶ 61,165, at P 29 (2006)).

[211] *Id.* (quoting *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 114 FERC ¶ 61,165 at P 29). The Commission also takes this opportunity to note that Powhatan is mistaken in its statement that the Commission "*must* look to 10b-5 precedent" when applying its Anti-Manipulation Rule. Powhatan Answer at 34-35 (emphasis added). As noted in Order No. 670, the Commission explained that it would apply specific securities law precedent on a case-by-case basis as appropriate under the specific facts, circumstances and situations in the energy industry. Order No. 670, FERC Stats. & Regs. ¶ 31,202 at PP 31, 42; *see also Barclays*, 144 FERC ¶ 61,041 at P 58. As we explained in *Barclays*, "The energy industry is not in all ways equivalent to the securities industry. Moreover, as we discuss below, our statutory mandate, unlike that of the SEC, is to ensure that rates for jurisdictional transactions are just and reasonable." *Barclays*, 144 FERC ¶ 61,041 at P 58.

[212] *See, e.g.*, Powhatan Answer at 25-27; Chen Answer at 4-7, 16, 20-21 n.47, 22, 25, 50 (referring to the possibility of a leg breaking, which is the same as the home run strategy).

Powhatan to a greater possibility of profit (as well as a corresponding greater risk of loss)."[213]

87. To illustrate his argument, Dr. Chen points to what would have happened to Respondents' spreads during the Polar Vortex.[214] He argues that "if [Dr. Chen's] A to B-B to A trades had been in place during the Polar Vortex in January 2014, one leg would have broken for each of the five paired nodal combinations he used, in a total of between 90 to 170 hours, depending on the ceiling price used, creating considerable profit."[215] Moreover, Powhatan argues that Dr. Chen sometimes bid $35/MWh on a leg, instead of the congestion limit of $50/MWh, stating that Dr. Chen would have always bid at the maximum congestion limit if he wanted both legs to clear.[216]

88. We reject each of these arguments as fundamentally flawed. First, we conclude that Respondents' suggestion that they sought to benefit from a "home run" or a "leg breaking" is an after-the-fact rationale, inconsistent with contemporaneous communications.[217] The evidence indicates that as Respondents developed their scheme and ultimately developed their round-trip strategy, they repeatedly discussed their desire to avoid risk.[218] And Dr. Chen affirmed in testimony that he selected the legs he did to

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[213] Powhatan Answer at 26.

[214] Chen Answer at 7, 16.

[215] *Id.* at 7 (citations omitted).

[216] Powhatan Answer at 25-26; *see also* Chen Answer at 4-5 (citation omitted).

[217] As Respondents recognize, no "home run" occurred during the Manipulation Period. Chen Answer at 18. Moreover, we reject Respondents' explanation that no contemporaneous communications exist concerning the "home run" strategy because Dr. Chen did not share every detail about his trading strategies with Mr. Gates. Chen Answer at 24 n.55; Chen Affidavit at ¶ 20; Powhatan Answer at 26 n.7. This explanation ignores evidence that demonstrates that the "home run" strategy did not exist, including: (i) Respondents' trading was completely inconsistent with a "home run" strategy; and (ii) that, inconsistent with a "home run" strategy, Mr. Gates understood that Dr. Chen's trades sought to reduce risk. *See* discussion *supra* PP 70-72. Thus, we are persuaded that the Respondents had no "home run" strategy and that they knowingly executed the round-trip UTC trades to receive MLSA payment. *See* discussion *infra* PP 86-93; *see also* Staff Reply at 26-27.

[218] For example, Respondents discussed that: (i) the "risk is very limited" Email from Alan Chen to Kevin Gates (July 22, 2008, 1:31 PM) (POW00008996); (ii) with the

(continued...)

minimize the risk that one of the legs would not clear.[219] Dr. Chen stated that his goal was not to have a leg rejected, noting that it could possibly be rejected but that he is "not really trying to asking [sic] for it."[220] Rather, he states that he was trying to reduce the risk of the possibility that a leg would be rejected.[221] We find this evidence is inconsistent with a "home run" strategy.

89. We do not find credible Dr. Chen's October 2010 testimony suggesting he earlier took into account the potential of earning profits from a leg breaking.[222] That testimony occurred after the trading at issue and after Dr. Chen had been contacted by both the IMM and OE Staff questioning his trades. The contemporaneous evidence from spring and summer 2010 makes no reference to a "leg-breaking" or "home run" strategy. Moreover, this October 2010 testimony is inconsistent with Dr. Chen's other testimony where he states his goal was to minimize a leg break. Finally, even if we believed that Dr. Chen did at some point consider the potential for profit from a leg breaking as an ancillary goal of his round trip trades, which we do not, we would still conclude that the primary and overwhelming reason he conceived of and entered into the round-trip UTC trades was to eliminate all other profits and risks and instead to earn MLSA payments.

90. Mr. Gates' testimony further contradicts the "home run" theory. He recalls that Dr. Chen considered the failure of a leg to be a risk of the round-trip strategy that could not be completely eliminated, and he understood that failure to be catastrophic.[223] Mr. Gates stated that it was something that he was "very concerned with," a "risk that . . .

MLSA payments the trades "are suddenly becoming risk free (almost to the point)" Email from Alan Chen to Kevin Gates (March 5, 2010, 9:37 PM) (POW00016599); (iii) even with the increased volume in trading "the risks associated with the trades overall are actually lower than before" Email from Alan Chen to Kevin Gates (March 5, 2010, 8:52 PM) (POW00012123); and (iv) in searching for a way to avoid another loss like that of May 30, 2010, Dr. Chen "tried to find a better hedged paired [sic] of trades. That's when I thought of using fully hedged paired trades." Email from Alan to Kevin Gates (August 24, 2010, 06:20:38 PM) (POW00004874).

[219] Chen Test. Vol. I Tr. 65:1-4; Chen Test. Vol. II Tr. 66:10-22.

[220] Chen Test. Vol. II Tr. 61:18-62:1 (objection omitted).

[221] *Id*. 66: 2-12.

[222] Chen Affidavit at 13-21.

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

would [keep] me up at night."[224] The evidence shows that Dr. Chen performed analyses concerning the historical performance of "all the combinations" of UTC paths[225] and that Mr. Gates understood Dr. Chen to have developed a model to determine the MLSA payments.[226] Yet, there is no record evidence that he even analyzed this alleged "home run" strategy.

91. Moreover, Dr. Chen's attempts to avoid risk were quite successful during the Manipulation Period: in approximately 12,000 round-trip UTC trades, Powhatan, HEEP, and CU Fund never experienced a "broken leg."[227] Given the weight of all of the evidence, we conclude that Respondents' argument that they were attempting to "hit a home run" or increase risk is not credible and is inconsistent with other evidence in the matter.

92. Respondents' Polar Vortex argument is similarly flawed and unpersuasive. There is no evidence that the Respondents ever contemplated a Polar-Vortex type event when developing their alleged home run strategy. Rather, Respondents appear to be citing the Polar Vortex as a *post hoc* rationalization for their trading conduct.[228]

93. Finally, the Commission does not find persuasive Respondents' argument that Dr. Chen's occasional bids at $35/MWh reflect a willingness to take the risk that one leg of the trade would not clear. As we noted above, in the Manipulation Period, Respondents never experienced a leg break. Moreover, a historical review of the UTC trading paths used by Respondents during the Manipulation Period demonstrates that those paths were selected by Dr. Chen because they were unlikely to experience divergent price spikes. Indeed, Dr. Chen's bids were above the day-ahead spreads in "well over" 99 percent of the hours from January 2008 through December 2010 and in

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[224] *Id.*; Gates Test. Vol. I Tr. 82:19-84:22.

[225] Chen Test. Vol. I Tr. 73:25-75:5.

[226] Staff Report at 26 n.149.

[227] Staff Reply at 3. Respondents do not deny the fact that the legs never broke during the Manipulation Period.

[228] We are therefore not persuaded by Dr. Chen's tables on this subject. *See* Chen Answer at 24-25.

every hour in the 12 months before Dr. Chen implemented his round-trip trading strategy.[229] As OE Staff calculated:

> In fact, between July 1, 2005 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 MISOCOMED) had *ever* experienced [d]ay-[a]head prices above $50; on all five, [d]ay [a]head prices above $20 were rare. Of the five main paths, only AEP-MISO had experienced [d]ay-[a]head prices above $20 in the 12 months preceding Respondents' trading.[230]

Thus, during the Manipulation Period, a trader would have reasonably expected a $35/MWh bid to have the same likelihood of being accepted into the UTC market on the paths here at issue as a $50/MWh bid.[231]

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[229] Staff Reply at 21 (relying on data provided by PJM).

[230] *Id*. at 20 (footnote omitted, emphasis in original); *see also* Staff Reply at 21 n.52. The same data (a PJM data set twice made available to Respondents) also shows that only 3.6 percent of Dr. Chen's bids were on the AEP-MISO path in the direction that ever experienced congestion prices above $20. OE Staff Submission of Non-Public Investigative Materials, January 2, 2015, at Staff Doc and Data Submission Jan 2, 2015\Transactional Data\PJM Trade Data\Trade_Data_POWHEF.xls.

[231] We similarly find Dr. Chen's graphic analysis of historical aggregate profitability at various bid levels unpersuasive. Chen Answer at 27. That analysis rolls up all months for all years from April 1, 2005 to August 3, 2014 – improperly incorporating outcomes from months after the Manipulation Period – and ignores any transaction costs. Providing a figure that rolls in results from after the Manipulation Period cannot inform us of what Dr. Chen understood about path performance at the time he placed his trades, as he would not have been privy to future market results. We are persuaded, on the other hand, that OE Staff's revisions to the graph present a more accurate view of the results. OE Staff's revisions demonstrate that historic revenues, even before transaction costs, were "anemic" and that after transaction costs were taken into consideration, the strategy would have been uniformly unprofitable. Staff Reply at 21-24.

(e) Respondents' loophole and deception arguments are unavailing

94. We find that describing these round-trip UTC trades as being made in response to a "loophole" in the PJM Tariff belies their fraudulent nature. The Commission has made clear that "[a]n entity need not violate a tariff, rule or regulation to commit fraud."[232] Thus, the fact that the PJM Tariff did not explicitly prohibit round-trip trades does not create a loophole. As set forth in greater detail below, market participants in the Commission's jurisdictional markets have been on notice for some time that round-trip trades such as these are improper.[233] Moreover, Respondents' round-trip UTC trades did not expose a market inefficiency as argued by Powhatan; the round-trip UTC trades furthered a scheme to defraud PJM and the MLSA payment recipients. Nor was this trading behavior a "service" to the market, as Powhatan suggests. Instead we find this behavior to have resulted in the manipulation of electric energy markets contrary to section 222 of the FPA and the Anti-Manipulation Rule.[234]

95. Additionally, Respondents argue that their trades were not deceptive and without deception there is no fraud.[235] We disagree. As stated above, "[f]raud is a question of fact to be determined by all the circumstances of a case." The market purpose behind speculative UTC trades in PJM was to permit traders to arbitrage the market to encourage

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[232] *Competitive Energy Services, LLC*, 144 FERC ¶ 61,163, at P 50 (2013) (citing Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 25); *Richard Silkman*, 144 FERC ¶ 61,164, at P 50 (2013); *Lincoln Paper and Tissue, LLC*, 144 FERC ¶ 61,162, at P 36 (2013). *See also In re Make-Whole Payments and Related Bidding Strategies*, 144 FERC ¶ 61,068, at P 83 (2013) (citations omitted).

[233] *See* discussion *infra* PP 115-123.

[234] We find that Powhatan's attempt to rely on Commission staff's 2009 testimony before the Committee of Energy and Natural Resources, Subcommittee on Energy to be inapposite. Powhatan Answer at 7. First, we have found that there was no loophole in this matter and that Respondents' trading violated the Commission's Anti-Manipulation Rule. Further, as we discuss below, the trades in question are wash trades and therefore *per se* fraudulent and manipulative. Moreover, Powhatan ignores the fact that, in the very same response it relies on, staff stated: "The big difference is the legal definition of . . . market manipulation. It's really a fraud statute. So what we have to show is that the trader had an intent to manipulate the market . . . ." As we set forth below, Respondents intended to and did manipulate the PJM market. *See* discussion *infra* PP 115-123.

[235] Chen Answer at 8-10, 15; Powhatan Answer at 7, 43.

convergence between the day-ahead and real-time markets.[236] Respondents' fraudulent trades could not and did not provide that benefit to the market. Nonetheless, Respondents placed their trades as market participants would place an arbitrage-based spread trade, except Respondents' round-trip UTC trades canceled each other out. The connected nature and purpose of the offsetting trades was concealed and created the illusion of high volume trading thereby subverting the PJM market. Specifically, as a result of Respondents' deception, PJM distributed less in MLSA funds to those market participants who were engaged in behavior supportive of and beneficial to the PJM market and instead provided those MLSA funds to Respondents. In short, we find that the Respondents defrauded PJM into allocating MLSA payments to Respondents by engaging in high volumes of fraudulent round-trip UTC trades solely to collect MLSA payments.

96. We also reject Respondents' argument that their trades were nothing like Enron's Death Star trading. Like Death Star's circular strategy, Respondents engaged in round-trip UTC trading that resulted in no net position and, thus, no possibility for profit or loss from market prices. Moreover, Death Star's strategy was profitable so long as the credits received exceeded the cost of scheduling the transactions; similarly, Respondents' strategy was profitable so long as the MLSA payments exceeded their transaction costs. In addition, Respondents' round-trip UTC trades falsely appeared to PJM as legitimate, arbitrage-related trades when in fact they were nullities placed to garner MLSA payments. Thus, similar to Death Star, Respondents' UTC trades involved offsetting pairs to capture revenues without providing the corresponding benefit to the market.

97. Dr. Chen's argument that our decision in the *Lake Erie Loop Flow*[237] case "blunts" any comparison to Enron is similarly unavailing.[238] This argument is similar to Respondents' argument that their trades were conducted in a "transparent manner."[239] The *Lake Erie Loop Flow* matter involved transactions "scheduled on a single tag, and thus showed the source, sink and intervening transmission," and scheduling requests between the ISOs were coordinated.[240] In contrast, Respondents' trades were not

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[236] *Black Oak Energy, L.L.C., et al. v. PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,208 at n.85; *see also* discussion *supra* PP 18-21.

[237] *Lake Erie Loop Flow*, 128 FERC ¶ 61,049.

[238] Chen Answer at 30.

[239] Powhatan Answer at 19; Chen Answer at 8-9, 15.

[240] *Lake Erie Loop Flow*, 128 FERC ¶ 61,049, App. A at 22.

scheduled via an electronic transmission tag so there was no mechanism by which PJM automatically could recognize their related nature, i.e., that the A-B transactions and the B-A transactions were linked and canceled each other out.[241]

(f) Respondents' conduct resulted in harm

98. We reject Powhatan's argument that Respondents' actions caused no harm because other market participants were not entitled to MLSA payments. While we have stated in the abstract that no market participant is entitled to a particular amount of MLSA payments and that PJM need not adopt a particular refund mechanism,[242] Powhatan ignores that PJM nevertheless filed a MLSA provision that later became effective as part of PJM's Commission-approved tariff.[243] Under the PJM Tariff's MLSA provision effective during the Manipulation Period, market participants who paid for transmission service for their transactions were entitled to receive the sum of MLSA payments established by the provision's Commission-approved hourly calculation. Accordingly, we find that identifiable market participants were harmed by Respondents' conduct; they did not receive the MLSA payments they would have received absent Respondents' unlawful round-trip UTC trades, as provided for under the then-effective PJM Tariff's MLSA provision. PJM's information included in OE Staff's Answer in Opposition to Respondents' January 27, 2015, Motion for a Two-Week Extension of Time indicated that Respondents' conduct led to over $10 million in harm, and deprived more than "20 market participants of more than $100,000 each, [and] four lost more than $500,000 each."[244]

99. In addition, we find Respondents' trades impacted transmission in PJM. During the Manipulation Period, Respondents scheduled more than 16.6 million MWh of transmission service in connection with their fraudulent, round-trip UTC trades, which

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[241] *See* Picard Test. Tr. 124:15-19 (in explaining the difficulty of deciphering Respondents' scheme, Mr. Picard explained, "there is 4000 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").

[242] *Atlantic City Elec. Co. v. PJM Interconnection, L.L.C.*, 115 FERC ¶ 61,132 at P 24.

[243] *Black Oak Energy, L.L.C. et al. v. PJM Interconnection, L.L.C.*, 128 FERC ¶ 61,262 at PP 25-26.

[244] OE Staff's Answer to Respondents' Request for Extension of Time, at 9 (Jan. 29, 2015). OE Staff filed a corrected version of this material on February 2, 2015.

amounted to more than 10 percent of all day-ahead transmission service reservations in PJM.[245] Therefore, Respondents impacted the availability of transmission from the time they reserved this transmission service until the time it was released for other market participants' use in the real-time market.

b. Wash Trades Have Been Explicitly Prohibited in Our Markets

i. Respondents' Show Cause Answers

100. Respondents explain that by definition, wash trades do not make money, are economically meaningless, take no risk, cancel each other and have no legitimate purpose. They assert that their trades were exposed to profits and losses, had a legitimate purpose, were profitable, did not cancel each other out, and possessed risk.[246] Respondents emphasize that their "A-B/B-A paired trades" were exposed to risk because "a significant portion of the paired trades had unmatched daily volumes, meaning that overall there was a directional congestion bet" and "both the matched and unmatched volume paired trades were exposed to congestion if one leg failed to clear."[247]

ii. OE Staff Report and Reply

101. OE Staff charges that Respondents' round-trip UTC trades are akin to wash trades.[248] Moreover, OE Staff alleges that it was just this type of "gaming" of the energy markets that the Commission has found to be improper and illegal.[249] OE Staff argues that the trades at issue are the functional equivalent of wash trades, noting specifically that they were paired in order to cancel out each direction's respective price spread risk

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[245] Staff Report at 81; Staff Reply at 85 (citing PJM Referral at 111-72). One market participant, Mr. Picard, testified that, by the beginning of Summer 2010, he began noticing that when purchasing transmission between two points in OASIS, the Available Transmission Capacity [ATC] amounts were going down dramatically. Serge Picard Test. Tr. 85:4-86:10.

[246] Chen Answer at 18-19; Powhatan Answer at 29-33.

[247] Chen Answer at 18-19.

[248] Staff Report at 50-58 (citing *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218 at PP 35, 53).

[249] *Id.* at 47-50.

so as to incur almost no economic risk.[250] Notwithstanding the existence of minimal risk should one leg fail to clear, OE Staff argues that these trades are wash trades because eliminating all risk is not an essential prerequisite to a finding of wash trading.[251]

102. OE Staff emphasizes that the Commission has explicitly prohibited wash trading as a *per se* violation, regardless of the trader's intent.[252] In addition, OE Staff states that 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."[253] In this regard, OE Staff notes, the Commission has previously determined that any conduct functionally equivalent to wash trading, even if it differed in some immaterial way so as to fall outside a precise definition of wash trading, would nonetheless constitute a violation of the Commission's behavior rules against market manipulation.[254]

iii. Commission Determination

103. We find that the Respondents' round-trip UTC trades are wash trades, and therefore *per se* fraudulent and manipulative. The Commission's original Market Behavior Rules identified wash trades as possessing two key elements—that the transactions: (1) are pre-arranged to cancel each other out; and (2) involve no economic risk.[255] Order No. 670 later incorporated Market Behavior Rule 2 into the Commission's Anti-Manipulation Rule.[256] Pursuant to Order No. 670, the Commission stated explicitly

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[250] *Id*. at 53; Staff Reply at 37-48.

[251] Staff Report at 55; Staff Reply at 46-48.

[252] Staff Reply at 39 (citing *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218 at P 58; *Amendments to Blanket Sales Certificates*, Order No. 644, 105 FERC ¶ 61,217, at PP 46-57 (2003)).

[253] *Id*.

[254] *Id*. at 39-40 (citing *In the Matter of Amendments to Blanket Sales Certificates*, 107 FERC ¶ 61,174, at P 47 (2004); *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218 at P 41).

[255] *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218 at P 53.

[256] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 58; *see also Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*,

(continued...)

that the prohibitions included in that Market Behavior Rule—including prohibitions against wash trades—would continue to be prohibited activities under the Anti-Manipulation Rule.[257]

104. As discussed above, we find Respondents' round-trip UTC trades satisfy both these elements and were, by design, wash trades.[258] That is, Respondents' trades were designed to cancel each other out and to eliminate price spread risk caused by differences in congestion prices between the selected nodes. We find that in Commission-regulated energy markets, the market risk associated with a wash trade need not be zero; it only need be small enough so that the risk has no practical or expected impact on the transaction, as was the case here.[259] While Respondents note the theoretical potential for one leg of the transaction to break, the evidence shows that Respondents' round-trip UTC trades always cleared during the Manipulation Period (as Respondents expected) and that because both legs cleared together, Respondents' round-trip UTC trades had no practical market risk.

105. Additionally, we disagree with Respondents' contention that their UTC trades were not wash trades because they were structured to produce a profit in their own right. As discussed above, we are persuaded that the way in which Respondents' profits were generated reveal a scheme that is supportive of and consistent with our finding of manipulation.[260] Respondents' trades generated profits only through the MLSA payments, which had no relationship to the underlying fundamentals of or the purposes

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114 FERC ¶ 61,165, at P 24 (2006) (rescinding Market Behavior Rule 2 because the "prohibited actions" were now prohibited under the Anti-Manipulation Rule).

[257] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 59.

[258] Because we find that Respondents' round-trip UTC trades fall squarely within the definition of wash trades, we do not address OE Staff's and Respondents' arguments regarding whether those trades are "akin" to wash trades.

[259] *See Piasio v. CFTC*, 54 Fed. App'x 702, 705 (2nd Cir. 2002); *SEC v. Colonial Inv. Mgmt. LLC*, 659 F. Supp. 2d 467, 473 (S.D.N.Y. 2009). *See also Wilson v.* CFTC, 322 F.3d 555, 559 (8th Cir. 2003) ("Wash trading produces a virtual financial nullity because the resulting net financial position is near or equal to zero."). *Cf.* Securities Exchange Act, Section 9 (defining wash trades, in pertinent part, as "an order or orders of substantially the same size . . . .").

[260] *See* discussion *supra* PP 76-78.

for the UTC product. In that way, Respondents' scheme operated like other wash trades we have found to be unlawful.

106. We also reject Respondents' claim that their trades were not wash trades because some of their trades consisted of "unmatched daily volumes." The only trades at issue here are Respondents' volumetrically identical, round-trip UTC trades. To the extent that there existed additional MWh on a particular node pair in a given hour, we have treated those as additional directional "bets" by Respondents that are not part of the round-trip trade.

107. Respondents' arguments that the trades in question were not manipulative or otherwise prohibited also ignores the Commission's long-standing policy that wash trades are inherently manipulative:

> Wash trades, by their very nature, are manipulative and purposely so. By definition, parties to a wash trade intend to create prearranged offsetting trades with no economic risk. Thus, we know of no legitimate business purpose attributable to such behavior and no commenter has suggested one.[261]

Moreover, the very nature of a wash trade is to conceal the true purpose of the trade. In this case, Respondents' wash trades concealed the fact that Respondents had used the UTC product to obtain transmission service reservations and thereby collect MLSA payments.

c. Respondents had notice that their trading is fraudulent, violates our statute and regulations, and is afforded no safe harbor

i. Respondents' Show Cause Answers

108. Respondents claim the Commission cannot find them to be in violation of the Anti-Manipulation Rule because they did not receive "fair notice" that their trades were prohibited, as required by the Due Process Clause of the United States Constitution.[262] Respondents assert that an agency "has the responsibility to state with ascertainable

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[261] *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218 at P 58.

[262] Powhatan Answer at 8-25; Chen Answer at 37-54.

certainty what is meant by the standards [it] has promulgated."[263] In addition, Respondents argue that the trades were permitted under the PJM Tariff and that the Commission did not exclude round-trip UTC trades from receiving MLSA payments in the *Black Oak*[264] proceedings.[265]

109. Powhatan also argues that Respondents' trades should be protected pursuant to the safe harbor established in Order No. 670 because the Commission, in *Black Oak*, had specifically contemplated the type of trading Respondents pursued.[266] Because the Commission did not then state that trading to collect larger MLSA payments would be unlawful, Respondents claim that the Commission cannot now find Respondents' conduct to be manipulative.[267] Respondents each also point out that Dr. Chen stopped trading as soon as the PJM's IMM requested he do so.[268]

110. Moreover, Powhatan argues that this proceeding is similar to *National Fuel Marketing Co., LLC, et al.*[269] where two Commissioners raised issues regarding fair notice. Powhatan states that *National Fuel* involved issues related to the manipulation of natural gas markets and to the "shipper-must-have-title" requirement. In that proceeding, the Commission issued an order to show cause concerning bidding by multiple affiliates to obtain a larger allocation of pipeline capacity than the parent company could have acquired itself. According to Powhatan, two Commissioners dissented from the order to show cause, concluding that the company did not receive advance notice that multiple

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[263] Chen Answer at 39 (citing *Gates & Fox Co. v. OSHA*, 790 F.2d 154, 156 (D.C. Cir. 1986))*; see also* Powhatan Answer at 9.

[264] *Black Oak Energy, L.L.C. v. PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,208, at P 51 (2008), *order on reh'g*, 125 FERC ¶ 61,042 (2008), *order on clarification*, 126 FERC ¶ 61,164 (2009), *order accepting compliance*, 128 FERC ¶ 61,262 (2009), *order on reh'g*, 131 FERC ¶ 61,024 (2010) (*Black Oak Proceeding*).

[265] Chen Answer at 15, 34-35, 40-48; Powhatan Answer at 3-12.

[266] Powhatan Answer at 9, 11-14 (citing Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 50).

[267] *Id.* at 12-14; Chen Answer at 40-48.

[268] Powhatan Answer at 13; Chen Answer at 44.

[269] *Nat'l Fuel Mktg. Co., LLC, et al.*, 126 FERC ¶ 61,042 (2009) (Moeller, Comm'r dissenting) (Spitzer, Comm'r dissenting).

affiliate bidding could be a violation of the Commission's Anti-Manipulation Rule. Powhatan argues that, as in *National Fuel*, "no Commission order or express regulation or rule ever alerted Powhatan that trades motivated by the collection of [MLSA] were unlawful."[270]

ii. OE Staff Report and Reply

111. OE Staff argues that federal agencies routinely apply broad statutory prohibitions similar in scope to the Commission's Anti-Manipulation Rule in a flexible way without running afoul of fair notice concerns.[271] OE Staff avers that such flexibility is necessary because the Commission long ago determined that it cannot identify in advance all the possible misconduct in which a market participant might engage.[272] As with the Securities and Exchange Commission's (SEC) Rule 10b-5, OE Staff explains that market participants do not get "one free bite" under the Commission's Anti-Manipulation Rule[273] simply because a particular fraudulent scheme was not specifically prohibited.

112. OE Staff states that Respondents had fair notice, and that with minimal effort they would have discovered both that the Commission disapproved of their trading strategy and similar strategies in the past.[274] OE Staff asserts that any reasonably prudent person familiar with the Commission's Anti-Manipulation Rule—like the market participants who refrained from such trading strategies and denounced them when they came to light—had fair notice.[275] In addition, OE Staff claims that Respondents knew they were

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[270] Powhatan Answer at 18.

[271] Staff Reply at 61. OE Staff points to the Federal Trade Commission Act, the Sherman Antitrust Act, and the Securities Exchange Act as examples of other statutes that incorporate similar breadth and flexibility. *Id.* at 61-62 (citing 15 U.S.C. § 1 (2012); 15 U.S.C. § 78j (2012); 15 U.S.C. § 45 (2012)).

[272] *Id.* at 69 (citing *Am. Elec. Power Serv. Corp., et al.*, 106 FERC ¶ 61,020, at P 45 (2004)).

[273] *Id.* at 62.

[274] Staff Report at 66.

[275] *Id.* at 67, 69.

exploiting the MLSA mechanism, and further that they anticipated it could lead to disgorgement of the revenues they had received.[276]

113. Additionally, OE Staff argues that the *Black Oak* orders do not in any way reflect Commission approval of high-volume, round-trip UTC trades to collect MLSA revenues.[277] OE Staff acknowledges that certain participants in the *Black Oak* proceeding warned that the chosen MLSA allocation method could create perverse incentives for virtual traders to engage in volume trading to collect larger MLSA payments rather than to trade for arbitrage purposes.[278] But, OE Staff argues, other participants avowed that such conduct would not occur, and the Commission approved the MLSA allocation mechanism with those assurances in mind.[279] Also, OE Staff avers that if Respondents' interpretation of the *Black Oak* orders was correct, the Commission would have been silently reversing itself on several crucial points, including the purpose of virtual trading and the impropriety of wash trading.[280]

114. OE Staff further asserts that Powhatan's invocation of *National Fuel* is unavailing. OE Staff states that a majority of the Commissioners approved the order to show cause in *National Fuel* and that the two dissents were based on a prior order that appeared to explicitly allow the conduct at issue in *National Fuel*. Thereafter, the Commission became aware of the particular bidding technique (similar to those used in *National Fuel*) and the Commission declined twice to change its position. Moreover, OE Staff emphasizes that all such actions occurred before the show cause order in *National Fuel*. In the instant case, OE Staff asserts that:

> 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 [*National Fuel*], when the

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[276] *Id.* at 70 (citing Email from Kevin Gates to Kevin Byrnes (July 26, 2010, 05:01:02 PM); Email from Kevin Gates to Larry Eiben, *et al*. (Aug. 19, 2010, 06:41:54 PM) (POW00006665); Email from Kevin Gates to Alan Chen (Mar. 5, 2010, 03:59:47) (POW00016981)).

[277] *Id.* at 59.

[278] *Id.* at 60-66, 68-69.

[279] *Id.* at 66.

[280] Staff Reply at 72-73.

> Commission issued the relevant Order, it was not aware of any market participant actually engaging in the relevant bidding strategy. . . 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.[281]

iii. Commission Determination

115. We reject Respondents' claim that the Commission failed to provide fair notice that Respondents' trading strategy would be impermissible, and a violation of section 222 of the FPA and the Commission's Anti-Manipulation Rule. In short, we find that Respondents were on notice that placing round-trip UTC trades solely for the purpose of collecting MLSA payments violated the FPA and the Anti-Manipulation Rule.

116. Respondents improperly seek to use the fair notice doctrine as a shield to permit the very behavior that Congress sought to prohibit. Broadly written, FPA section 222 explicitly directed the Commission to adopt regulations in furtherance of the public interest and for the protection of electric ratepayers.[282] The Commission's implementing regulation, its Anti-Manipulation Rule, is written similarly broadly, like the statute, to encompass the full and wide variety of fraudulent activity that can occur.[283]

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[281] *Id.* at 74.

[282] 16 U.S.C. § 824v(a) (2012).

[283] *See, e.g.*, Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 50 ("The Commission defines fraud generally, that is, to include any action, transaction, or conspiracy for the purpose of impairing, obstructing or defeating a well-functioning market."). Similar broad language exists in the Securities Exchange Act, which states in part that it is "unlawful for any person . . . [t]o use or employ, in connection with the purchase or sale of any security . . . , any manipulative or deceptive device or contrivance in contrivention of such rules and regulations as the [SEC] may prescribe." 15 U.S.C. § 78j(b). *See also SEC v. Zanford*, 535 U.S. 813, 819 (2002) ("we have explained that the statute should be construed not technically and restrictively, but flexibly to effectuate its remedial purposes"). The Sherman Antitrust Act ("Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal") and the Federal Trade Commission Act ("Unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are hereby declared unlawful")

(continued...)

117. Although courts articulate fair notice in slightly different ways, they consistently consider whether a "reasonably prudent person, familiar with the conditions that the regulations are meant to address and the objectives the regulations are meant to achieve, [has] fair warning of what the regulations require."[284] For an agency to fail to provide sufficient notice, the regulation must be so ambiguous that it cannot be interpreted correctly and the agency must have failed to provide guidance before imposition of the penalty.[285]

118. Commission precedent invalidates any claim of ambiguity concerning the scope of our Anti-Manipulation Rule. When the Commission adopted the Anti-Manipulation Rule, it defined fraud generally, that is, to include "any action, transaction, or conspiracy for the purpose of impairing, obstructing or defeating a well-functioning market."[286] The Commission specifically addressed and rejected arguments that the regulation was vague or overbroad.[287] No entity appealed that decision. To raise the issue now is to collaterally, and thus, impermissibly attack Order No. 670, which the Commission will not entertain.

119. Moreover, Respondents had notice that round-trip trading has long been deemed manipulative and inappropriate in Commission-jurisdictional markets. We have found that these trades are wash trades.[288] As noted above, even before the adoption of the Anti-Manipulation Rule, Market Behavior Rule 2(a) prohibited pre-arranged offsetting trades of the same product among the same parties, involving no economic risk and no

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each have similarly broad prohibitions that are interpreted with flexibility. *See* 15 U.S.C. § 1; 15 U.S.C. § 45(a)(1).

[284] *Freeman United Coal Mining Co. v. Fed. Mine Safety & Health Review Comm'n*, 108 F.3d 358, 362 (D.C. Cir. 1997) (*Freeman*). *See also Rock of Ages Corp. v. Sec'y of Labor*, 170 F.3d 148, 156 (2d Cir. 1999) (citing *Freeman*); *Moussa I. Korouma, d/b/a Quntum Energy LLC*, 135 FERC ¶ 61,245, at P 34 (2011) (citing *Freeman*).

[285] *United States v. Lachman*, 387 F.3d 42, 57 (1st Cir. 2004); *see also PMD Produce Brokerage Corp. v. USDA*, 234 F.3d 48, 53 (D.C. Cir. 2000).

[286] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 50.

[287] *See id.* PP 30-32; *see also* 17 C.F.R. § 240.10b-5 (2014).

[288] *See* discussion *supra* P 103.

net change in beneficial ownership—i.e., wash trades.[289] As we explained, that prohibition continues under the Anti-Manipulation Rule.[290] Thus, the market has had notice that wash trading is not permitted for more than a decade (and for at least five years before Respondents' conduct here).

120. Respondents' arguments that their conduct is not actionable because it was not expressly prohibited in PJM's Tariff similarly ignore the meaning and purpose of the Anti-Manipulation Rule and Commission precedent. The Commission has explained that tariffs cannot be written to prohibit all possible fraudulent behavior[291] as "[t]he methods and techniques of manipulation are limited only by the ingenuity of man."[292] Accordingly, we have repeatedly held:

> 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.[293]

121. In this instance, the fact that the PJM Tariff did not explicitly prohibit the behavior is to no avail. Respondents participated in a scheme to manipulate, and thus have committed a fraud against our regulated markets, which violates section 222 of the FPA and the Anti-Manipulation Rule. Moreover, the Commission finds that Dr. Chen's

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[289] *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218 at P 52.

[290] *See* discussion *supra* P 103; Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 59.

[291] *See, e.g.*, *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 114 FERC ¶ 61,165 at P 24.

[292] *Cargill, Inc. v. Hardin*, 452 F.2d 1154, 1163 (8th Cir. 1971).

[293] *Competitive Energy Services, LLC*, 144 FERC ¶ 61,163 at P 50 (citations omitted); *Richard Silkman*, 144 FERC ¶ 61,164 at P 50; *Lincoln Paper and Tissue, LLC*, 144 FERC ¶ 61,162 at P 36. *See also In re Make Whole Payments and Related Bidding Strategies*, 144 FERC ¶ 61,068 at P 83 (citations omitted).

compliance with the PJM IMM's request to stop trading has no bearing on whether Respondents' received fair notice.

122. We also reject Respondents' view that our *Black Oak* orders can be read to authorize Respondents' fraudulent round-trip UTC trades and that their trades somehow fall within the safe harbor provisions provided by Order No. 670. For the safe harbor to be invoked, the action must have been "explicitly contemplated in Commission-approved rules or regulations . . . ."[294] We find that Respondents' actions were not explicitly contemplated by PJM's rules and that the Commission did not approve round-trip trades in the *Black Oak* proceedings, and therefore Respondents misinterpret and attempt to misapply the "safe harbor" provision. The *Black Oak* decisions' holdings focused only on the merits of an MLSA distribution mechanism, and not on how market participants trade UTCs or the ways in which a market participant might manipulate that mechanism. The Commission's passing mention of the issue in response to third-party comments was not an affirmation of the conduct.[295] Because the Commission's *Black Oak* orders did not explicitly contemplate trading UTCs for the purpose of capturing MLSA revenues, Respondents cannot now claim to have reasonably concluded that their trades would not be subject to Commission scrutiny. When it is unclear whether conduct would be legal, the risk associated with pursuing that conduct falls on the market participant.[296] Moreover, Respondents' arguments suggest that they relied on the *Black Oak* decisions as affirmation that their trades were allowed. No one has brought to our attention contemporaneous evidence that Respondents relied on the *Black Oak* decisions when Dr. Chen consummated their trades; in fact, there is no evidence that Respondents read or relied on the *Black Oak* decisions before they began their UTC trading scheme.

123. We also disagree that the dissents in *National Fuel* require a different answer here. The dissenting Commissioners in *National Fuel* argued that shippers had asked the Commission to rule on the conduct at issue in that matter, and the Commission declined

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[294] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 67.

[295] *See Black Oak Energy, L.L.C., et al. v. PJM Interconnection, L.L.C.*, 125 FERC ¶ 61,042, at PP 38, 43 (2008).

[296] *See Precious Metals Associates, Inc. v. CFTC*, 620 F.2d 900, 909 (1st Cir. 1980) ("Appellants went ahead with an operation knowing full well that it was probably illegal or, at the optimum, that its legality was doubtful. They cannot convert the Commission's silence into approval. They took their chances and must suffer the consequences."). Furthermore, as we set forth below, Respondents and all PJM market participants had notice that wash trading violates section 222 of the FPA and the Anti-Manipulation Rule. *See* discussion *supra* P 119.

their request to do so.[297] Notwithstanding those dissents, no entities have previously asked the Commission to rule on the lawfulness of using offsetting UTC positions to profit solely from the collection of MLSA payments. Therefore, the dissents in *National Fuel* provide no support to Powhatan.

2. Scienter

124. Scienter is the second element of the Commission's Anti-Manipulation Rule.[298] For purposes of establishing scienter, Order No. 670 requires reckless, knowing, or intentional actions taken in conjunction with a fraudulent scheme, material misrepresentation, or material omission.[299]

a. Respondents' Show Cause Answers

125. Respondents claim that they did not act with requisite scienter. First, they argue their UTC transactions responded to price incentives and thus had a legitimate economic purpose.[300] Second, HEEP, CU Fund, and Dr. Chen argue that Dr. Chen did not intend to engage in unlawful conduct.[301] Third, HEEP, CU Fund, and Dr. Chen argue that the communications OE Staff relies on fail to establish scienter because they predate the relevant trading conduct, involve exchanges with individuals other than Dr. Chen, or because OE Staff draws irrational conclusions from them.[302] Finally, Respondents argue that Dr. Chen executed his round-trip UTC transactions in an open, transparent manner,

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[297] *Nat'l Fuel Mktg. Co., LLC, et al*., 126 FERC ¶ 61,042 (Moeller, Comm'r dissenting) (noting that a group of shippers had requested that the Commission rule on the conduct at issue, and the Commission "twice declined its opportunity to act") (Spitzer, Comm'r dissenting) (noting that the Commission "declined to prohibit multiple-affiliate bidding" after entities previously asked it to consider the issue and after holding a technical conference on the issue).

[298] *See* Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 49.

[299] *Id*. PP 52-53.

[300] Chen Answer at 56; Powhatan Answer at 31.

[301] Chen Answer at 55-57.

[302] *Id*. at 57-61.

which is inconsistent with any sort of fraudulent intent.[303] As discussed below, we find that these arguments lack merit.

b. OE Staff Report and Reply

126. OE Staff asserts that Dr. Chen (and, hence, HEEP and CU Fund) acted with scienter based on evidence that he: (1) knew his round-trip UTC trading strategy manipulated PJM's rules; (2) intentionally implemented the scheme and course of business to defraud for the monetary benefit of himself and the other Respondents; (3) knew that a substantial risk existed that the profits from the scheme would be clawed back when discovered; and (4) communicated the essential details of his strategy to Powhatan through Mr. Gates.[304] OE Staff asserts that Powhatan acted with scienter based on evidence that it: (1) understood the essential details of the scheme; (2) endorsed, willingly and significantly increased its investment in, and approved the scheme; (3) earned millions of dollars in unjust profits as a result of the scheme; and (4) expected its profits to come to an end as soon as the scheme was discovered.[305]

127. In addition, OE Staff asserts that Respondents' scienter is evidenced by their invention of a false *post hoc* explanation—the "home run" theory—for their trading conduct.[306] Finally, OE Staff claims that scienter is established based on Dr. Chen's repeated admissions that he understood the purpose of UTC trading and, yet, traded for the opposite purpose.[307]

c. Commission Determination

128. We agree with OE Staff that Respondents acted with the requisite scienter in connection with their scheme. We find sufficient evidence demonstrating Respondents' manipulative intent, including contemporaneous e-mail communications, testimony and other evidence, the pattern and evolution of Dr. Chen's trading, the absence of market fundamentals underlying the UTC trades at issue, and Respondents' deliberate actions to expand and increase their profits from the scheme. As discussed below, the evidence

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[303] Powhatan Answer at 7, 43; Chen Answer at 8-9.

[304] Staff Report at 75.

[305] *Id.*

[306] Staff Reply at 78.

[307] *Id.*

shows that Respondents, individually and together, knowingly and intentionally participated in a manipulative scheme to engage in wash trading and deceive PJM about the true nature of their transactions, thereby harming the market and other market participants.

i. Dr. Chen, HEEP, and CU Fund Acted With Scienter

129. We find that Dr. Chen, HEEP, and CU Fund acted with scienter based, principally, on: (1) evidence that Dr. Chen understood that his fraudulent trading scheme was inconsistent with, and obstructed the market design purpose of, UTC trading in PJM; (2) evidence of the pattern and evolution of Dr. Chen's round-trip UTC trading; and (3) Dr. Chen's deliberate decision to increase profits for himself after perfecting his scheme. We are also persuaded by OE Staff's argument that Respondents' scienter is further shown by their creation of a *post hoc* explanation—the home run strategy—for which there is no evidentiary support contemporaneous with the relevant trading conduct.[308]

130. As described above, Dr. Chen understood that UTCs served to "improve day-ahead and real-time price spreads . . . .[by] trying to make them converge, ... so that the goal is to improve market efficiency."[309] Yet, despite this understanding, Dr. Chen's contemporaneous communications, discussed above, reveal his intent to avoid all price spread risk in his UTC trading and, instead, profit solely based on collection of MLSA payments.[310]

131. Dr. Chen's manipulative intent is also reflected in the pattern and evolution of his UTC trades. As discussed above, Dr. Chen's UTC trading evolved from a fundamentals-based strategy focused on arbitraging price spreads to a strategy focused on eliminating as much price spread risk as possible. Dr. Chen's discovery of his MLSA eligibility triggered this change in strategy and his intent was clear from this time forward when he

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[308] *See* OE Staff Reply at 78.

[309] Chen Test. Vol. I Tr. 31:14-21; *see also* discussion *supra* 38.

[310] *See, e.g.*, Email from Alan Chen to Kevin Gates (March 5, 2010, 9:37 PM) (POW00016599) (describing his trades as "suddenly becoming risk-free (almost to the point) trades"); Email from Alan Chen to Kevin Gates (Aug. 24, 2010, 6:20:38 PM) (POW00004874) (describing use of "fully hedged paired trades").

worked to perfect the strategy to find more effective ways to profit solely from MLSA payments.[311]

132. Dr. Chen further demonstrated his manipulative intent through his deliberate decision to increase his own profits after perfecting his round-trip trading scheme and seeing the profits it produced for HEEP. On July 17, 2010, Dr. Chen formed CU Fund, a company untethered to any contractual arrangement with Powhatan. CU Fund allowed Dr. Chen to implement his scheme without trading limits and to keep all of the proceeds for himself. As Dr. Chen testified, he made "much larger trades in CU Fund than [he] had ever done in the HEEP Fund," and "the overwhelming number of those [trades] . . . was equal and opposite pairs."[312] He testified further that a "goal" of creating CU Fund was "to take full advantage of the TLC."[313]

ii. Dr. Chen, HEEP, and CU Fund's Scienter Arguments Lack Merit

133. None of Dr. Chen's, HEEP's, and CU Fund's arguments convinces us that they acted without scienter. First, as noted above, we reject their claim that they traded for a legitimate economic purpose. Contemporaneous evidence show that, by his own admission, Dr. Chen executed the round-trip trades for the purpose of canceling the price spread risk of UTCs and profiting based solely on MLSA payments.[314] Seeking to obtain MLSA payments through round-trip trades is not a legitimate economic purpose. Moreover, assuming, *arguendo*, that Dr. Chen did have a legitimate economic purpose for engaging in these transactions, as we held in *Barclays*, "a 'legitimate business purpose' is not an affirmative defense to manipulation," but "just . . . one of many [factors] that the Commission would consider to determine whether each [Respondent] possessed scienter."[315]

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[311] *See* discussion *supra* PP 74-75.

[312] Chen Test. Vol. II Tr. 139:9-16.

[313] *Id.* at 139:17-19.

[314] *See, e.g.*, Email from Alan Chen to Kevin Gates (Aug. 24, 2010, 6:20:38 PM) (POW00004874) (explaining that he used "fully hedged paired trades" to reduce risk).

[315] *Barclays*, 144 FERC ¶ 61,041, at P 61 (2013) (citing *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 114 FERC ¶ 61,165, at P 29 (2006)).

134. Second, we are not persuaded by the argument that Dr. Chen did not intend to engage in unlawful trading behavior. Scienter does not require evidence that Dr. Chen intended to break the law but, rather, only that he intended to take certain actions and knew the consequences of such actions.[316] Dr. Chen intended to trade UTCs in PJM in a way that eliminated risk from price spreads in order to obtain transmission and profit solely from MLSA payments, and he understood the consequences of his trading on this basis—that he would be able to draw a greater share of MLSA payments at the expense of other market participants.

135. Third, we reject Dr. Chen, HEEP, and CU Fund's argument that many of the e-mail communications on which OE Staff relies cannot show scienter because they predate the relevant trading conduct.[317] To the contrary, we find these e-mail communications are highly relevant as they show Dr. Chen's consistent scienter in the evolution of his scheme to target MLSA payments (including during the time of his round-trip trading). As described above, while Dr. Chen's specific trading strategies evolved over time, his intent remained the same throughout—to minimize risk and profit as much as possible from MLSA payments. Dr. Chen's earlier communications show the development of his scheme and demonstrate that he had the same intent while he implemented his scheme as he did when he perfected it.[318] In any event, we do not rely

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[316] *Pittsburgh Terminal Corp. v. The Baltimore and Ohio Railroad Co.*, 680 F.2d 933, 942 (3d Cir. 1982) ("A violation of Section 10(b) does not require a specific intention to break the law. It requires only knowing or intentional actions which, objectively examined, amount to a violation."); *SEC v. Falstaff Brewing Corp.*, 629 F.2d 62, 77 (D.C. Cir. 1980) ("Knowledge means awareness of the underlying facts, not the labels that the law places on those facts. Except in very rare instances, no area of the law not even the criminal law demands that a defendant have thought his actions were illegal. A knowledge of what one is doing and the consequences of those actions suffices.").

[317] They also point out that some of the e-mails cited by OE Staff involve statements of individuals other than Dr. Chen. However, the Commission does not rely on any such communications in finding that Dr. Chen, HEEP, and CU Fund acted with the requisite scienter.

[318] *See Barclays*, 144 FERC ¶ 61,041 at P 75 (noting 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"). *Cf. In re REMEC Inc. Secs. Litig.*, 702 F. Supp. 2d 1202, 1222 (S.D. Cal. 2010) (holding in a securities fraud class action suit that "[s]tatements made before the class period can be relevant evidence on this issue of

(continued...)

solely on e-mail communications that predate Respondents' round-trip trading scheme in finding that they acted with scienter.[319]

136. Finally, even if we agreed that Respondents' trades were otherwise legal, which we do not, we reject Respondents' argument that their trades were not fraudulent because they were executed in an open, transparent manner. The United States District Court for the Eastern District of California recently rejected the same argument from Barclays, holding that such a view "is not supportable."[320] This decision supports the clear Commission precedent on the issue: that "otherwise legal conduct—or what Barclays refers to as "real" transactions—may be proscribed by our anti-manipulation provisions"[321] and that "transactions entered into with manipulative intent can serve as the basis for a manipulation claim, even in the absence of some other deceptive conduct."[322] The Commission also held that "in consideration of the nature and structure of our markets and of our statutory mandate, we hold that in matters which allege a violation of the FPA section 222 or the Anti-Manipulation Rule the defense that trades were 'real' trades is not dispositive of the question of manipulation."[323] While Dr. Chen might have accurately entered his trades into the machine-read PJM market system, he placed them for a manipulative, deceptive purpose, creating the false appearance that he was trading based on price spread risk when in fact he traded to eliminate that risk.

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scienter because 'they may provide insight into what the defendant knew during the class period'" (citations and quotations omitted)).

[319] *See, e.g.*, Email from Alan Chen to Kevin Gates (Aug. 24, 2010, 6:20:38) (POW00004874); Email from Alan Chen to Kevin Gates (June 7, 2010, 9:57 PM (POW00003761).

[320] *FERC v. Barclays Bank PLC, et al.*, No. 2:13-cv-2093-TLN-DAD, at 33 (E.D. Cal. May 20, 2015) (rejecting Barclays' argument "that trades which involve willing counterparties made on the open market cannot be actionable under Section 10(b)").

[321] *Barclays*, 144 FERC ¶ 61,041 at PP 50-58.

[322] *Id.* P 54 (citing *Brian Hunter*, 135 FERC ¶ 61,054, at P 50, *order denying reh'g*, 137 FERC ¶ 61,146 (2011), *rev'd sub nom. Hunter v. FERC*, 711 F.3d 155 (2013)).

[323] *Id.* P 58.

iii. Powhatan Acted With Scienter

137. We find that Powhatan also acted with the requisite scienter based on contemporaneous evidence showing its: (1) knowledge and understanding of Dr. Chen's round-trip UTC trading scheme, including the consequences of the scheme; (2) support, increased investment in and encouragement for the scheme; and (3) deliberate actions to increase its profits resulting from the scheme.[324]

138. Like Dr. Chen, Powhatan understood the purpose of UTC trading in PJM. Mr. Gates acknowledged, for example, that before Dr. Chen learned of his eligibility for MLSA payments, Dr. Chen traded UTCs based on "his ability to model congestion [and] his ability to model the day-ahead versus the real-time spread."[325] In other words, he understood that Dr. Chen initially traded UTCs based on market fundamentals. Mr. Gates also understood that Dr. Chen altered his UTC trading purpose away from market fundamentals after discovering that he was eligible to receive MLSA payments. Mr. Gates explained that under this new purpose, Dr. Chen "was trying to remove the day-ahead/real-time spread."[326] Specifically, Mr. Gates understood that Dr. Chen was "trying to drive . . . the day-ahead versus the real-time . . . to zero and isolate the bet to his ability to model the marginal loss credit . . . ."[327] Mr. Gates understood that Dr. Chen

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[324] Although we rely on both direct and circumstantial evidence of intent here, circumstantial evidence of scienter is sufficient. *See, e.g.*, *Desert Palace, Inc. v. Costa*, 539 U.S. 90, 100 (2003) ("Circumstantial evidence is not only sufficient, but may be more certain, satisfying and persuasive than direct evidence."); *United States v. Philip Morris USA Inc.*, 566 F.3d 1095, 1118 (D.C. Cir. 2009) ("A person's state of mind is rarely susceptible of proof by direct evidence, so specific intent to defraud may be, and most often is, inferred from the totality of the circumstances, including indirect and circumstantial evidence."); *United States v. Kim*, 267 F. App'x 712, 713 (9th Cir. 2008) (citation omitted) ("Fraudulent intent may be, and often must be, proven by circumstantial evidence."); *United States v. Salameh*, 152 F.3d 88, 143 (2d Cir. 1998) ("… as a general rule most evidence of intent is circumstantial…"); *United States v. O'Brien*, 14 F.3d 703, 706 (1st Cir. 1994) (citation omitted) ("Guilty knowledge, like specific intent, seldom can be established by direct evidence. This principle has particular pertinence in respect to fraud crimes which, by their very nature, often yield little in the way of direct proof.").

[325] Staff Report at 25 (quoting K. Gates Test. Vol. II Tr. 172:25-173:2).

[326] *Id.* (quoting K. Gates Test. Vol. II Tr. 309:20-21).

[327] *Id.* (quoting K. Gates Test. Vol. II Tr. 172:3-9).

accomplished this scheme through round-trip trades. He testified, "I remember [Chen] saying . . . that he was very clearly trying to eliminate that [spread], and he was going from A to B – B to A."[328] Mr. Gates also understood the consequences of Dr. Chen's scheme, knowing that it yielded large payments from PJM and that it gave Powhatan an "edge" over other market participants.[329]

139. Knowing and understanding that Dr. Chen was executing round-trip trades to profit solely from MLSA payments, Powhatan supported and encouraged the scheme to move forward. For example, Mr. Gates, talking about Dr. Chen's risk-free strategy of targeting MLSA payments, told Dr. Chen, "I don't want to leave money on the table."[330]

140. Powhatan's scienter is also reflected in its decision in Spring 2010 to increase the multiple of UTC trades executed on its behalf from four to twenty. This willingness to increase its exposure by a multiple of five shows that Powhatan knew that Dr. Chen's improved UTC trading scheme would allow it to secure profits without taking any of the risks inherent in ordinary spread trading.[331]

3. <u>In Connection With Jurisdictional Transaction</u>

141. The third element of establishing a violation under FPA section 222 and the Commission's Anti-Manipulation Rule is determining whether the conduct in question was "in connection with" a transaction subject to the Commission's jurisdiction.[332] Section 201(b)(1) of the FPA confers jurisdiction on the Commission over "the transmission of electric energy in interstate commerce and . . . . the sale of electric energy at wholesale in interstate commerce."[333]

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[328] *Id.* (quoting K. Gates Test. Vol. II Tr. 178:12-15).

[329] *Id.* at 29 (quoting Email from Kevin Gates to Kevin Byrnes (July 26, 2010, 5:01:02 PM) (POW00001849)).

[330] *Id.* at 20 (quoting Email from Kevin Gates to Alan Chen (March 5, 2010, 9:40:46 PM) (POW00016599)).

[331] We reject Powhatan's scienter arguments—that Dr. Chen had a legitimate economic purpose and placed his trades in an open, transparent manner—for the same reasons we rejected similar arguments made by HEEP, CU Fund, and Dr. Chen.

[332] 16 U.S.C. § 824v(a) (2012); 18 C.F.R. § 1c.2 (2014).

[333] 16 U.S.C. § 824(b)(1).

a. Respondents' Show Cause Answers

142. Dr. Chen argues that the Commission lacks jurisdiction over the Respondents' UTC trades at issue in this proceeding. Dr. Chen contends that his UTC trades were purely financial and, thus, cannot be deemed to be jurisdictional sales of physical power or transmission.[334] Also, Dr. Chen argues that because the UTC transaction did not result in the physical delivery of electricity, its transmission reservation was not a reservation of physical transmission; therefore, Dr. Chen asserts, the UTC trades cannot be jurisdictional.[335] Moreover, Dr. Chen argues that the relevant UTC trades were not in connection with jurisdictional transactions because OE Staff's allegations are based on the proposition that "the trades were always offsetting in the time period at issue, and thus never affected congestion outcomes."[336] Powhatan does not contest jurisdiction in its Answer.

b. OE Staff Report and Reply

143. OE Staff asserts that, contrary to Dr. Chen's contention, Respondents' conduct falls within the Commission's jurisdiction. OE Staff argues that Respondents' UTC transactions affected, or had the potential to affect, the price of physical electricity because they are an integral part of PJM's day-ahead model and, therefore, play an important role in setting day-ahead prices.[337] OE Staff claims that the Commission has jurisdiction over virtual transactions even though no actual delivery of power is involved in the transaction.[338] OE Staff explains that the Commission has found that virtual bidding is an integral part of the operation of the wholesale markets[339] and, as such, it falls within the Commission's responsibility under FPA section 205 to ensure that rates for jurisdictional power sales are just and reasonable.[340] Moreover, OE Staff avers that

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[334] Chen Answer at 63.

[335] *Id*.

[336] Chen Answer at 63-64.

[337] Staff Report at 77-79; Staff Reply at 81-82.

[338] Staff Reply at 84 (citing *Cal. Indep. Sys. Operator Corp.*, 110 FERC ¶ 61,041, at P 31(2005)).

[339] Staff Report at 78 (citing *Cal. Indep. Sys. Operator Corp.*, 108 FERC ¶ 61,254, at P 74 (2004)).

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

Dr. Chen reserved and purchased Commission-jurisdictional transmission services when executing the UTC transactions at issue and that such transmission provided the physical link between the day-ahead and real-time markets.[341] OE Staff also argues that Respondents' reservations of huge volumes of transmission affected other market participants' available capacity and that the Commission's authority over transmission services extends to ATC.[342]

c. Commission Determination

144. We find that the Commission has jurisdiction over the Respondents' UTC trading during the Manipulation Period. Respondents challenge the Commission's jurisdiction because their round-trip UTC trades did not result in actual delivery of power. We find that such an argument ignores our broad statutory obligation that provides jurisdiction over the transmission or sale of electric energy at wholesale in interstate commerce,[343] as well as the responsibility to ensure that rates and charges for transmission and wholesale power sales are just and reasonable and not unduly discriminatory or preferential.[344] Moreover, the Court of Appeals for the District of Columbia Circuit has affirmed in recent years that the Commission has "authority under the FPA to regulate the activity of traders who participate in energy markets."[345]

145. Respondents engaged in round-trip UTC trades within PJM's energy market; their UTC transactions, associated transmission service reservations, and MLSA payments

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[341] *Id.* at 77-80; Staff Reply at 84-86.

[342] Staff Reply at 84-86.

[343] 16 U.S.C. § 824(b).

[344] Section 205(a) of the FPA charges the Commission with ensuring that rates and charges for jurisdictional sales by public utilities and "all rules and regulations affecting or pertaining to such rates or charges" are just and reasonable. *Id.* § 824d(a). Section 206(a) gives the Commission authority over rate and charges by public utilities for jurisdictional sales as well as "any rule, regulation, practice or contract affecting such rates and charges" to make sure that they are just and reasonable and not unduly discriminatory or preferential. *Id.* § 824e(a).

[345] *Kourouma v. FERC*, 723 F.3d 274, 276 (D.C. Cir. 2012).

were implemented under PJM's Commission-approved tariff.[346] Thus, by virtue of engaging in UTC transactions and benefiting from MLSA allocation, both of which operated under a Commission-approved tariff within PJM, a Commission-regulated RTO, we find the UTC trades at issue are under our jurisdictional purview.

146. Also, virtual transactions, including UTC transactions, are integral to the operation and settlement of Commission-jurisdictional wholesale markets.[347] In the context of CAISO's convergence bidding (virtual bidding), the Commission explained that:

> [t]o participate in virtual bidding, a participant is required to submit virtual bids in the same way and at the same time as all other day-ahead bids. Virtual bids are cleared along with those other bids, and can affect the outcomes of the settlement of the day-ahead physical market. Therefore, virtual bids can be seen as a substitute for bids for physical power.[348]

The Commission stated that it has jurisdiction over practices that affect rates and because "convergence 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."[349] Therefore, we conclude that we have jurisdiction over the Respondents' virtual product trades conducted during the Manipulation Period.

147. Further, the Respondents' round-trip UTC trades involved the reservation of jurisdictional transmission services within the PJM market. At the time of the transactions at issue in this proceeding, all UTC transactions were required to reserve transmission service and, as such, the Respondents scheduled non-firm transmission service. As explained above, transmission of energy is within the Commission's jurisdiction. Moreover, the Commission's jurisdiction over transmission is extremely

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[346] *Black Oak Energy, L.L.C., et al.*, 128 FERC ¶ 61,262 (2009); *PJM Interconnection, L.L.C.*, 91 FERC ¶ 61,148 (2000); *Atlantic City Elec. Co., et al.*, 86 FERC ¶ 61,147 (1999).

[347] *Cal. Indep. Sys. Operator Corp.*, 108 FERC ¶ 61,254 at P 74.

[348] *Id.*

[349] *Cal. Indep. Sys. Operator Corp.*, 110 FERC ¶ 61,041 at P 31.

broad.[350] We reject the argument that this transmission service was not physical transmission because it did not result in delivery of physical energy. As OE Staff correctly points out, "[t]here is no such thing as 'virtual' transmission."[351] Respondents' UTC bids and associated transmission service reservations were integral to the settlement of PJM's day-ahead market, regardless of whether the transmission reservation lacked delivery of physical energy.

148. Apart from our direct jurisdiction, Respondents' conduct also was "in connection with" other market participants' jurisdictional transactions such that the necessary jurisdictional nexus under FPA section 222 is also satisfied on this basis. We have noted that the *in connection with* element encompasses "situations in which there is a nexus between the fraudulent conduct of an entity and a jurisdictional transaction."[352] Even where underlying fraudulent transactions do not involve the transmission or sale of electric energy in interstate commerce, they nonetheless can fall within the ambit of our jurisdiction if "the entity . . . . intend[s] to affect, or . . . . act[s] recklessly to affect, a jurisdictional transaction."[353] We find that Respondents' UTC transactions and associated transmission service reservations affected the amount of transmission service available to other market participants to use for their transactions, including physical power sales.

C. <u>Remedies and Sanctions</u>

149. Having concluded that Respondents, in connection with jurisdictional UTC transactions and associated transmission services, intentionally or knowingly devised and participated in a fraudulent scheme to manipulate and a course of business to defraud PJM's wholesale power market in violation of FPA section 222(a) and section 1c.2 of the Commission's regulations, we now must determine the appropriate remedies to assess. OE Staff recommends both civil penalties and disgorgement be assessed against Respondents. After assessing the legal and factual issues, including those raised by Respondents, and "tak[ing] into consideration the seriousness of the violation[s] and the

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[350] *New York v. FERC*, 535 U.S. 1, 16-17 (2002) (noting that the Commission has jurisdiction over the entire transmission grid).

[351] Staff Reply at 80 n. 258.

[352] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 22; *see also Barclays*, 144 FERC ¶ 61,041 at P 113; *BP America Inc., et al.*, 147 FERC ¶ 61,130, at P 23 (2014).

[353] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 22.

efforts of such person[s] to remedy the violation[s] in a timely manner,"[354] we agree with OE Staff's recommendations to assess penalties and disgorgement. As explained more fully below, although we disagree with one aspect of OE Staff's penalty analysis, we exercise our discretion and accept its proposed penalty amounts, which fall within the applicable Penalty Guidelines' ranges.

1. Penalties

150. Pursuant to FPA section 316A(b), the Commission may assess a civil penalty of up to $1 million per day, per violation against any person who violates Part II of the FPA (including section 222 of the FPA) or any rule or order thereunder.[355] HEEP and Powhatan each executed fraudulent trades on 64 days and CU Fund executed them on 16 days.[356] Even at a rate of one violation per day—an underestimation of the violations committed—we have the statutory authority to assess penalties of up to $64 million each against HEEP and Powhatan and $16 million against CU Fund.

151. In determining an appropriate penalty amount within the statutory maximums, section 316A(b) requires the Commission to consider "the seriousness of the violation and the efforts of such person to remedy the violation in a timely manner."[357] Although the Penalty Guidelines are not mandatory—and do not apply to individuals such as Dr. Chen—the Commission uses them and its Policy Statements on Enforcement,[358] to guide its penalty analysis for organizations, such as HEEP, CU Fund, and Powhatan.[359]

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[354] 16 U.S.C. § 825o-1(b).

[355] *Id.*

[356] Staff Report at 80 n.412.

[357] 16 U.S.C. § 825o-1(b).

[358] *Enforcement of Statutes, Orders, Rules, and Regulations*, 123 FERC ¶ 61,156 (2008); *Enforcement of Statutes, Orders, Rules, and Regulations*, 113 FERC ¶ 61,068 (2005).

[359] *See Enforcement of Statutes, Orders, Rules, and Regulations*, 132 FERC ¶ 61,216 (2010) (Revised Policy Statement on Penalty Guidelines); *Enforcement of Statutes, Orders, Rules, and Regulations*, 130 FERC ¶ 61,220, at PP 6, 26 (2010) (Initial Policy Statement on Penalty Guidelines) (seriousness of violation and timely efforts to remedy a violation will continue to be significant factors under the Penalty Guidelines). The Commission also stated when issuing its Initial Policy Statement on Penalty

(continued...)

152. The Penalty Guidelines use two sets of factors to establish penalties. First, the Penalty Guidelines calculate a Base Penalty amount based on factors specifically tailored to the seriousness of the violation, including the loss caused by the violation. Second, the Penalty Guidelines consider several culpability factors, including efforts to remedy violations, which lead to minimum and maximum multipliers of the Base Penalty amount to arrive at the applicable penalty range.

153. For fraud, the Penalty Guidelines start with a pre-assigned Base Violation Level (6 points) and then adjust this level based on the loss caused by the violation and an enhancement for either the amount of energy involved in the violation or the duration of the violation, whichever is greater.[360] A Base Penalty is then established as the greater of (1) a pre-established dollar amount associated with the final calculated Violation Level; (2) the pecuniary gain to the organization from the violation; or (3) the pecuniary loss caused by the violation.[361]

154. After establishing a Base Penalty amount, the Penalty Guidelines then determine the culpability score (using a variety of factors), which establishes corresponding minimum and maximum culpability score multipliers that are multiplied by the Base Penalty to establish a penalty range. By creating "a penalty *range*, rather than an absolute figure," we "retain some discretion," and the "[s]pecific facts of each case will determine where in the range the ultimate penalty might fall."[362] The specific facts determine, for example, whether the ultimate penalty should fall within, or, in appropriate circumstances, outside the indicated civil penalty range. Where facts warrant, the Commission retains discretion to deviate from the Penalty Guidelines range, but we have noted that we "do not intend to depart from the Penalty Guidelines regularly."[363]

Guidelines that it will continue to rely on factors identified in its previous policy statements on enforcement and policy statement on compliance to measure the seriousness of violations and timely efforts to remedy violations. The Commission noted that any conflict will be resolved in favor of the Penalty Guidelines. Initial Policy Statement on Penalty Guidelines, 130 FERC ¶ 61,220 at P 63. The Penalty Guidelines are appended to the Revised Policy Statement on Penalty Guidelines.

[360] FERC Penalty Guidelines § 2B1.1.

[361] *Id.* § 1C2.2(a).

[362] Initial Policy Statement on Penalty Guidelines, 130 FERC ¶ 61,220 at P 32 (emphasis in original).

[363] *Id.*

155. The foregoing Penalty Guidelines analysis does not apply to individuals, like Dr. Chen. Instead, we determine penalties for individuals "based on the facts and circumstances of the violation," and "look to [the Penalty] Guidelines for guidance in setting those penalties."[364] Thus, below we apply the Penalty Guidelines to HEEP, CU Fund, and Powhatan as part of our penalty determination, while conducting a separate penalty analysis for Dr. Chen, guided by the facts and circumstances of his violations and some of the same factors described in the Penalty Guidelines.

a. Assessment of Civil Penalty Against HEEP and CU Fund

156. OE Staff recommends civil penalties of $1,920,000 for HEEP and $10,080,000 for CU Fund.[365] Applying the Penalty Guidelines, OE Staff's recommendation accounts for the following factors: (1) after netting out transaction costs (i.e., the cost of the transmission purchased in the fraudulent wash trades) HEEP and CU Fund earned $173,100 and $1,080,576, respectively, in unjust profits; (2) the manipulative trades involved more than 100,000 MWh of electricity for each company; (3) both companies cooperated adequately with OE Staff's investigation; (4) neither company accepted responsibility for the violations; (5) neither company self-reported the violations; and (6) neither company had compliance programs in effect at the time of the violations.[366] In light of the collusion between them, OE Staff recommends holding HEEP and Powhatan jointly and severally liable for the penalty against HEEP.[367]

157. The Commission agrees with OE Staff that HEEP's and CU Fund's violations were serious and warrant penalties.

i. Seriousness of the Violations

158. In the following paragraphs, we discuss the factors in the Penalty Guidelines that are relevant to the seriousness of HEEP's and CU Fund's violations.

159. *Manipulation, Deceit, Fraud, and Recklessness or Indifference to Results of Actions (Penalty Guidelines § 2B1.1).* As described above, HEEP and CU Fund, through Dr. Chen, developed and participated in a course of business to defraud and a

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[364] FERC Penalty Guidelines § 1A1.1, Application Note 1.

[365] Staff Report at 81-82.

[366] *Id.* at 81.

[367] *Id.* at 82.

manipulative scheme to defraud the PJM market in violation of FPA section 222(a) and section 1c.2 of the Commission's regulations.[368] This course of business and scheme operated as a fraud on PJM because it relied on wash trades and created the false appearance that Respondents were trading UTCs for their intended purpose—to take risk by arbitraging differences between day-ahead and real-time prices—when in fact they were placing those trades solely for the purpose of negating that arbitrage price risk in order to collect MLSA payments that otherwise would have gone to other market participants who reserved transmission service for their transactions. The Respondents' acts fall under section 2B1.1 of the Penalty Guidelines and thus our analysis begins with a pre-assigned Base Violation Level of 6.

160. *Loss Caused by the Violation (Penalty Guidelines § 2B1.1(b)(1))*. The Penalty Guidelines measure the seriousness of a fraud-based violation by considering the loss it caused, and specify that "loss" is the greater of "actual loss or intended loss."[369] "Actual loss" is defined as "the reasonably foreseeable pecuniary harm that resulted from the violation."[370] OE Staff's loss calculation for purposes of calculating the Violation Level used Respondents' unjust profits, which netted out transaction costs, instead of using the actual loss that resulted from Respondents' violations.[371] We disagree with this approach because the Penalty Guidelines distinguish loss from gain and make clear that "[t]he Commission will use the gain that resulted from the violation as an alternative measure of loss *only if* there is a loss but it reasonably cannot be determined."[372] In this case, the loss can reasonably be determined—it is the total amount of MLSA payments (without netting out any costs) Respondents received that otherwise would have been paid to other market participants making legitimate transactions.[373] Specifically, HEEP received $398,770 and CU Fund received $1,784,145 in MLSA payments attributable to their round-trip

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[368] As also discussed above, Powhatan was part of this scheme to defraud.

[369] FERC Penalty Guidelines § 2B1.1, Application Note 2(A).

[370] *Id*. § 2B1.1, Application Note 2(A)(i).

[371] Staff Report at 82.

[372] FERC Penalty Guidelines § 2B1.1, Application Note 2B (emphasis added).

[373] In addition to this loss caused by the misallocation of MLSA payments, Dr. Chen's fraudulent trading may have caused other more tangential market impacts. The Commission, however, "need only make a reasonable estimate of the loss." *Id.* § 2B1.1, Application Note 2(C).

UTC trade volumes. Using these loss figures increases HEEP's Base Violation Level by 12 points and CU Fund's by 16 points.[374]

161. *Scope of Violations as Measured by Volume and Duration (Penalty Guidelines § 2B1.1(b)(2))*. After accounting for loss, the Penalty Guidelines further adjust the Base Violation Level based on the scope of the violation, as measured by an adder based on either the amount of energy involved in the violation or the duration of the violation, whichever is greater. HEEP's and CU Fund's scheme each persisted from June 1, 2010 to August 3, 2010, and involved more than 100,000 MWh of electricity. Accordingly, a 6 point Violation Level increase is warranted for each Respondent under section 2B1.1(b)(2)(C) of the Penalty Guidelines.

162. *Base Penalty (Penalty Guidelines § 1C2.2)*. Based on the foregoing analysis, we find HEEP's and CU Fund's final Violation Levels are 24 and 28, respectively (calculated as the Base Violation Level of 6 points for fraud plus increases of 12 points for HEEP and 16 points for CU Fund based on the loss caused, and increases of 6 points to each for the volume involved in their violations). These final Violation Levels correspond to specific dollar amounts enumerated in a "Violation Level Penalty Table."[375] Referencing this table, HEEP's final violation level of 24 corresponds to $2,100,000 and CU Fund's final violation level of 28 corresponds to $6,300,000. We then use these figures to determine the Base Penalty, which is the greater of (1) these dollar amounts from the "Violation Level Penalty Table"; or (2) the pecuniary gain from the violations ($173,000 for HEEP and $1,080,576 for CU Fund); or (3) the pecuniary loss from the violations ($398,770 for HEEP and $1,784,145 for CU Fund). Accordingly, the Base Penalties are $2,100,000 for HEEP and $6,300,000 for CU Fund.

ii. Aggravating and Mitigating Culpability Factors

163. All violations start with a base culpability score of 5, which is then adjusted upward or downward depending on the various culpability factors.[376] The only

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[374] OE Staff's use of the lower unjust profit figure of $173,100 for HEEP would result in an increase of 10 points, instead of the 12 point increase in our analysis. In contrast, OE Staff's use of the lower unjust profit figure of $1,080,576 for CU Fund does not make a difference because any loss between $1 million and $2.5 million generates a 16 point increase. As we explain below, despite this difference in our Penalty Guidelines' analysis, we accept OE Staff's proposed penalties.

[375] FERC Penalty Guidelines § 1C2.2(b).

[376] *Id.* § 1C2.3(a).

adjustment appropriately made here is a reduction of 1 point as OE Staff has stated that HEEP and CU Fund cooperated in the investigation. We find HEEP's and CU Fund's culpability scores are 4 (base score of 5 reduced by 1 point for cooperation) which corresponds to a minimum multiplier of 0.80 and maximum multiplier of 1.60. Applying these multipliers to their respective Base Penalties produces a penalty range of $1,680,000 to $3,360,000 for HEEP and $5,040,000 to $10,080,000 for CU Fund. The penalties proposed by OE Staff fall within these ranges.

iii. Appropriate Penalty for HEEP and CU Fund

164. Based on the foregoing analysis and the record in this proceeding, the Commission finds that OE Staff's recommended civil penalties of $1,920,000 for HEEP and $10,080,000 for CU Fund are fair and reasonable. Although we could assess a higher civil penalty for HEEP within the Penalty Guidelines range, we have discretion where within the range to set the ultimate penalty, and we accept OE Staff's recommended penalty as fair and reasonable. HEEP and CU Fund, acting through Dr. Chen, used high volume of round-trip UTC trades to extract millions of dollars in PJM MLSA payments that otherwise would have been allocated to market participants. We find OE Staff's recommended penalties appropriate under these circumstances. Therefore, we direct HEEP and CU Fund to pay civil penalties of $1,920,000 and $10,080,000, respectively, within 60 days of the date of this Order.

165. Also, we agree with OE Staff that Powhatan should be held jointly and severally liable with HEEP for the $1,920,000 penalty assessed against HEEP. HEEP, CU Fund, and Dr. Chen erroneously claim that the Commission declined to adopt joint and several liability in its Order to Show Cause in this matter. We made no such ruling and did not address the issue in that Order.[377] HEEP, CU Fund, and Dr. Chen also cite a 2003 Commission order in which we found that apportionment, if possible, is preferable for distribution of funds from refund liability.[378] That order's expression of a general preference for apportionment, however, does not compel us to reject joint and several liability here. Unlike that case, which involved refunds apportioned to various unconnected entities' electricity purchases based on our finding of market flaws in California, this case involves a finding of intentional manipulation by multiple entities that acted together to execute a fraudulent scheme. We find that it is appropriate to apply

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[377] *See Houlian Chen, et al.*, 149 FERC ¶ 61,261 (2014), *revised*, 149 FERC ¶ 61,263 (2014).

[378] 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)).

joint and several liability under these circumstances.[379] Were we not to adopt joint and several liability, entities engaged in the intentional act of fraud could potentially avoid paying the full penalty and disgorgement amounts.[380] This would be improper.

b. Assessment of Civil Penalty Against Powhatan

166. OE Staff recommends a civil penalty of $16,800,000 for Powhatan.[381] Applying the Penalty Guidelines, OE Staff's recommendation accounts for the following factors: (1) Powhatan earned $3,465,108 in unjust profits; (2) the manipulative trades involved more than 100,000 MWh of electricity; (3) Powhatan cooperated with OE Staff's investigation; (4) Powhatan has not accepted responsibility for its conduct; (5) Powhatan did not self-report the violations; and (6) Powhatan lacked a compliance program at the time of the violations.[382]

167. Powhatan disputes the recommended penalty on the grounds that no other market participants could be harmed by Dr. Chen's trades because no entity is entitled to MLSA payments.[383]

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[379] *See SEC v. Levine*, 517 F. Supp. 2d 121, 147 (D.D.C. 2007) (finding multiple defendants jointly and severally liable for civil penalty where they worked together to fraudulently overstate assets and falsify records in violation of federal securities laws); *SEC v. Haligiannis*, 470 F. Supp. 2d 373, 386 n.13 (holding all four defendants in securities fraud case "to be joint and severally liable for civil penalties, as there is no meaningful difference in their culpability"). *Accord* Restatement (Third) of Torts: Apportionment of Liability § 12 (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."); *Paper Sys. Inc. v. Nippon Paper Indust. Co., Ltd*., 281 F.3d 629, 632 (7th Cir. 2002) (holding that "each member of a conspiracy is liable for all damages caused by the conspiracy's entire output").

[380] *See, e.g*., Email from Kevin Gates to Richard Gates (March 21, 2010, 7:55 AM) (POW00007990) (noting that if PJM sought to claw back MLSA payments "we'd bankrupt our company and not pay PJM").

[381] Staff Report at 84.

[382] *Id*. at 81, 84.

[383] Powhatan Answer at 48.

168. We agree with OE Staff that Powhatan's violations were serious and warrant a civil penalty. Similar to its analysis for HEEP, we find that OE Staff erred by using unjust profits instead of loss to determine the Violation Level under the Penalty Guidelines. However, as explained below we again exercise our discretion and accept OE Staff's proposed penalty, which falls within the applicable Penalty Guidelines range. Our Penalty Guidelines analysis for Powhatan largely mirrors the HEEP and CU Fund analyses, differing only slightly to account for Powhatan's role and the market harm caused by its participation.

i. Seriousness of the Violations

169. *Manipulation, Deceit, Fraud, and Recklessness or Indifference to Results of Actions (Penalty Guidelines § 2B1.1).* With full knowledge of and support for Dr. Chen's fraudulent round-trip UTC trades executed on its behalf, Powhatan participated in the manipulative scheme and a course of business to defraud PJM and other market participants in violation of FPA section 222(a) and section 1c.2 of the Commission's regulations.[384] Powhatan's Penalty Guidelines analysis thus begins with a Base Violation Level of 6.

170. *Loss Caused by the Violation (Penalty Guidelines § 2B1.1(b)(1)).* As with HEEP and CU Fund, OE Staff's penalty recommendation considered Powhatan's unjust profits (after netting out transactions costs) instead of the loss that resulted from the violations.[385] We again find that OE Staff erred in applying unjust profits instead of loss to calculate the Violation Level under the Penalty Guidelines. The loss caused by Powhatan's conduct is the total amount of MLSA payments (without netting out any costs) Powhatan received ($7,975,403) which would have been distributed to other market participants but for Respondents' fraudulent round-trip UTC trades.[386] Accordingly, we use this loss amount rather than OE Staff's lesser, unjust profits figure, thereby increasing Powhatan's Base Violation Level by 20 points.[387]

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[384] *See* discussion *supra* PP 137-140.

[385] Staff Report at 84.

[386] We reject Powhatan's argument that there is no harm because other market participants were not entitled to MLSA payments. *See* discussion *supra* at P 98.

[387] OE Staff's use of the lower unjust profit figure of $3,465,108 would result in an increase of 18 points, instead of the 20 point increase used in our analysis.

171. *Scope of* Violations *as Measured by Volume and Duration (Penalty Guidelines § 2B1.1(b)(2))*. Powhatan's volume and duration factors are the same as those of HEEP and CU Fund. The relevant conduct persisted for nearly three months and involved more than 100,000 MWh of electricity. Accordingly, a 6 point increase is warranted.

172. *Base* Penalty *(Penalty Guidelines § 1C2.2)*. Based on the foregoing analysis, we find Powhatan's final Violation Level is 32 (calculated as the Base Violation Level of 6 points for fraud plus increases of 20 points for the loss caused, and 6 points for the volume involved in the violations). A final Violation Level of 32 corresponds to $17,500,000 from the "Violation Level Penalty Table."[388] Powhatan's Base Penalty then becomes the greater of (1) $17,500,000; or (2) Powhatan's pecuniary gain from the violations ($3,465,108); or (3) the pecuniary loss caused by Powhatan's violations ($7,975,403). Accordingly, Powhatan's Base Penalty is $17,500,000.

ii. Aggravating and Mitigating Culpability Factors

173. Again, the only appropriate adjustment we find to the culpability score is a reduction of 1 point based on OE Staff's representation that Powhatan cooperated with the investigation. Thus, we find Powhatan's culpability score is 4 (base score of 5 reduced by 1 point for cooperation). A culpability score of 4 corresponds to a minimum multiplier of 0.80 and maximum multiplier of 1.60.[389] Applying these multipliers to Powhatan's Base Penalty of $17,500,000 produces a penalty range of $14,000,000 to $28,000,000. OE Staff's recommended penalty of $16,800,000 falls within this range.

iii. Appropriate Penalty for Powhatan

174. Based on the foregoing analysis, the pleadings in this case, and the OE Staff Report, the Commission finds that a $16,800,000 civil penalty for Powhatan is warranted and is fair and reasonable. This civil penalty amount is within the Penalty Guidelines range. Similar to our penalty assessment for HEEP, although we could assess a higher civil penalty for Powhatan within the Penalty Guidelines range, we have discretion where within the range to set the ultimate penalty, and we accept OE Staff's recommended penalty as fair and reasonable. With full knowledge of Dr. Chen's trading conduct, Powhatan supported and encouraged the scheme and course of business to move forward. The scheme was central to Powhatan's business—indeed, one purpose of Powhatan's creation was to protect its investors in case PJM sought to claw back the MLSA

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[388] FERC Penalty Guidelines § 1C2.2(b).

[389] *Id.* § 1C2.4.

payments.[390] Given Powhatan's integral role in the manipulative scheme and course of business, we find OE Staff's proposed penalty appropriate and direct Powhatan to pay a civil penalty of $16,800,000 within 60 days of the date of this Order.

175. As with HEEP's civil penalty, we agree with OE Staff that Powhatan and HEEP should be held jointly and severally liable for the $16,800,000 penalty assessed against Powhatan, given the collusion between them.[391]

c. Assessment of Penalty Against Dr. Chen

176. OE Staff recommends a total civil penalty of $1,000,000 for Dr. Chen—$500,000 for his acts on behalf of HEEP and Powhatan and $500,000 for his acts on behalf of CU Fund.[392] OE Staff's recommendation accounts for the following factors: (1) Dr. Chen knowingly devised and implemented the manipulative scheme; (2) Dr. Chen carried out the scheme over several months and stopped only after being contacted by PJM's IMM; (3) Dr. Chen's deliberate conduct harmed the integrity of the regulatory process and PJM's market without regard to deleterious market impacts; and (4) Dr. Chen cooperated with OE Staff's investigation, but did not self-report the violations and took no efforts to mitigate the harm his conduct caused.[393]

177. Dr. Chen raises five arguments against assessment of the penalty OE Staff recommends. First, he argues that the Commission lacks statutory authority to penalize individuals.[394] Second, he contends that we must look at the seriousness factor in context, which, he alleges, involved trading in a way contemplated by the Commission and never prohibited or even labeled as manipulation.[395] Third, Dr. Chen argues that his trades did not cause any harm because market participants are not entitled to MLSA payments.[396] Fourth, Dr. Chen asks the Commission to consider that he stopped the relevant conduct in a timely manner after being contacted by the PJM IMM and that he

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[390] Staff Report at 22, n.128.

[391] *See* discussion *supra* P 165.

[392] Staff Report at 82.

[393] *Id.*

[394] Chen Answer at 64-66.

[395] *Id.* at 67.

[396] *Id.*

did not remedy the violations sooner because he did not think he was acting unlawfully.[397] Finally, Dr. Chen asks us to consider the toll this proceeding has taken on him and that OE Staff's recommended sanctions would drive him into bankruptcy.[398]

178. As a threshold matter, we reject Dr. Chen's argument that the Commission lacks statutory authority to penalize individuals. We find that section 1c.2 of our regulations reaches Dr. Chen's conduct in this case, and that we have jurisdiction over Dr. Chen for purposes of enforcing this law. Section 1c.2 makes it unlawful for "any entity, directly or indirectly" to engage in fraudulent activities "in connection with" a transaction subject to the Commission's jurisdiction.[399] As we explained in Order No. 670, and have applied in multiple cases since, "'[a]ny entity'" is a deliberately inclusive term. . . . [that] include[s] any person or form of organization, regardless of its legal status, function or activities."[400] The phrase "any entity" is broad, and applies to natural persons, such as Dr. Chen, who have direct involvement in manipulative schemes.[401] The United States District Court for the Eastern District of California recently adopted this position in the *Barclays* matter, holding that "a meaning of 'entity' that includes natural persons appears more consistent with the goals of FPA section 222 and the surrounding statutory scheme."[402]

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[397] *Id.* at 67-68.

[398] *Id.* at 68.

[399] 18 C.F.R. § 1c.2 (2014); *see also* 16 U.S.C. § 824v(a) (2012) ("It shall be unlawful for any entity . . . directly or indirectly, to use or employ, in connection with the purchase or sale of electric energy . . . subject to the jurisdiction of the Commission, any manipulative or deceptive device or contrivance.").

[400] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 18. The Commission previously has assessed civil penalties to individuals, for example, see *Maxim Power Corp., et al*., 151 FERC ¶ 61,094, at P 66 (2015); *Richard Silkman*, 144 FERC ¶ 61,164 at P 93; *Barclays*, 144 FERC ¶ 61,041 at PP 135-146; *Moussa I. Kourouma d/b/a Quntum Energy LLC*, 135 FERC ¶ 61,245, at P 53 (2011).

[401] As we stated in Order No. 670, "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." Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 18.

[402] *FERC v. Barclays Bank PLC, et al*., No. 2:13-cv-2093-TLN-DAD, at 32 (E.D. Cal. May 20, 2015) (rejecting argument that claims against individual Barclays' traders

(continued...)

179. Having determined that we have authority to penalize Dr. Chen, we now turn to consider whether OE Staff's recommended penalty is appropriate. For individuals who are not subject to the Penalty Guidelines, the Commission has previously considered five factors in determining the amount of any civil penalty assessed pursuant to section 316A of the FPA: (1) seriousness of the violation; (2) commitment to compliance; (3) self-reporting, (4) cooperation; and (5) reliance on OE Staff guidance.[403]

i. Seriousness of the Violations

180. The Commission's Revised Policy Statement on Enforcement identifies several factors to consider in our analysis of the seriousness of the violations.[404] We discuss these factors below to the extent that they are relevant to Dr. Chen's conduct.

181. *Harm Caused by the Violation*. Dr. Chen's round-trip UTC trades financially harmed PJM and its customers by extracting more than $10 million in MLSA payments that otherwise would have gone to other market participants engaging in UTC transactions.[405] Also, Dr. Chen's scheme and course of business to defraud persisted for nearly three months and has affected some transmission service in PJM. In sum, Dr. Chen's scheme and course of business to defraud, executed on behalf of three separate entities, caused widespread harm to PJM, other market participants, and the integrity of the market, warranting a significant penalty.

182. *Manipulation, Deceit, Fraud, and Recklessness or Indifference to Results of Actions*. Dr. Chen's scheme operated as a fraud and deceit on PJM. Specifically, and as described above, Dr. Chen deceived PJM into disbursing MLSA payments by creating the false impression that he was trading to arbitrage price differentials when, in fact, he was engaging in round-trip UTC trades solely to collect MLSA.

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should be dismissed because "entity" under FPA section 222 does not include natural persons).

[403] *Moussa I. Kourouma d/b/a Quntum Energy LLC*, 135 FERC ¶ 61,245 at P 42. These factors stem from guidance we provided in our Revised Policy Statement on Enforcement. *See* Revised Policy Statement on Enforcement, 123 FERC ¶ 61,156 at P 54.

[404] Revised Policy Statement on Enforcement, 123 FERC ¶ 61,156 at P 55.

[405] For the same reasons expressed in our penalty determination for Powhatan, we reject Dr. Chen's argument that these other market participants were not entitled to MLSA payments and, thus, were not harmed. *See* discussion *supra* P 98.

183. *Willful Action or in Concert with Others*. Dr. Chen's scheme was willful and conducted in concert with, and on behalf of, others. Despite his understanding that the purpose of UTC trading was to try to arbitrage price differentials, Dr. Chen affirmatively implemented his scheme.[406] Dr. Chen also acted in concert with others, detailing his scheme to Powhatan and then executing trades on their behalf.

184. *Isolated Instance or Recurring Problem; Systematic and Persistent Wrongdoing and Duration*. Dr. Chen executed his scheme on behalf of all Respondents, systematically and persistently for a continuous period of close to three months. He stopped only after being contacted by PJM's IMM.

185. Based on the foregoing seriousness factors, we find that Dr. Chen's conduct was serious and warrants a substantial penalty. Moreover, we reject Dr. Chen's contention that we should view the seriousness of his conduct in the context of the Commission having contemplated and never prohibiting the behavior at issue. As we discussed above, we never approved the conduct at issue and have provided ample notice that wash trades and similar fraudulent transactions are unlawful.[407]

ii. Mitigating Factors Relating to Culpability

186. *Commitment to Compliance, Self-Reporting, Cooperation, and Reliance on Staff Guidance*. Only one mitigating factor, cooperation, serves to mitigate Dr. Chen's violations. Because he lacked a compliance program at the time of his violations, did not self-report the violations, and never sought guidance from staff, he is not eligible for a credit based on these factors.[408]

iii. Appropriate Penalty for Dr. Chen

187. Based on the foregoing factors, the pleadings in this case, and the OE Staff Report, the Commission finds that there is a critical need to discourage and deter the fraudulent

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[406] Chen Test. Vol. I Tr. 31:14-18.

[407] *See* discussion *supra* PP 103-107, 115-123.

[408] Regarding Dr. Chen's efforts to remedy the violations, we reject his contention that he stopped the conduct in a timely manner and that he did not make efforts to remedy the violations sooner only because he did not think he was acting unlawfully. Dr. Chen is a sophisticated, experienced trader. He reasonably knew or should have known that his round-trip trading scheme raised potential compliance concerns and, at a minimum, should have inquired further into the lawfulness of his behavior.

conduct at issue and that a civil penalty of $1,000,000 is fair and reasonable. We find this civil penalty to be particularly appropriate given that Dr. Chen designed and implemented the fraudulent scheme and course of business to defraud on behalf of multiple entities, and given the widespread scope of and harm caused by his violations. Also, Dr. Chen never made efforts to remedy or cease his violations and stopped trading only after being contacted by PJM's IMM. Therefore, we direct Dr. Chen to pay the $1,000,000 civil penalty within 60 days of the date of this Order.[409]

2. Disgorgement

188. OE Staff recommends that the Commission require Respondents to disgorge the full amount of their gain, plus applicable interest, resulting from Dr. Chen's manipulative trading scheme. Specifically, OE Staff asserts that after netting out the transaction costs, the fraudulent trades resulted in gains of $1,080,576 to CU Fund, $173,100 to HEEP, and $3,465,108 to Powhatan, and that these gains should be disgorged.[410] We agree. It is a long-standing Commission practice to require disgorgement of unjust profits.[411] In cases where pecuniary gain results from a violation, "the Commission enters a disgorgement order for the full amount of the gain plus interest."[412] Pecuniary gain includes "the additional before tax profit to the entity resulting from the relevant conduct of the violation."[413]

189. The disgorgement amount "need only be a reasonable approximation of profits causally connected to the violation,"[414] and we find that OE Staff correctly calculated "a reasonable approximation of the profits" by taking the MLSA payments Respondents collected as a result of the scheme and deducting the transaction costs of their trades.

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[409] Furthermore, we are not persuaded by Dr. Chen's request that we consider the toll this proceeding has taken on him. Dr. Chen willingly engaged in a fraudulent trading scheme that had a deleterious impact on the PJM market and other market participants.

[410] Staff Report at 82-83.

[411] Revised Policy Statement on Enforcement, 123 FERC ¶ 61,156 at P 43.

[412] FERC Penalty Guidelines § 1B1.1(a).

[413] *Id.* § 1A1.1, Application Note 3(g).

[414] *SEC v. Whittemore*, 659 F.3d 1, 7 (D.C. Cir. 2011).

190. Therefore, in addition to the civil penalties, we direct disgorgement payments, plus applicable interest, of (1) $1,080,576 for CU Fund; (2) $173,100 for HEEP; and (3) $3,465,108 for Powhatan. Such payments shall be made within 60 days of the date of this Order. We will require the interest on these sums to be calculated in accordance with 18 C.F.R. § 35.19a for the full period of time since Respondents received their MLSA payments from PJM.

191. Finally, we agree with OE Staff's recommendation to hold HEEP, CU Fund and Dr. Chen jointly and severally liable for HEEP's and CU Fund's required disgorgement payments, and to hold Powhatan, HEEP, and Dr. Chen jointly and severally liable for Powhatan's required disgorgement payment. We find that applying joint and several liability is appropriate where, as occurred here, multiple respondents collaborate or have a close relationship in executing the fraud.[415]

D. Request for Oral Argument

192. Dr. Chen requests oral argument related to the Order to Show Cause.[416] We do not agree with Dr. Chen's assessment that oral argument in this matter would be helpful to the Commission.[417] The record before the Commission and the arguments made by the parties provide us sufficient basis to make our findings, and there is no need for an oral

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[415] *Id*. at 1, 10-11 (affirming finding that multiple defendants are jointly and severally liable for disgorgement of unjust profits because of their collaboration in a fraudulent securities scheme). Holding Dr. Chen jointly and severally liable for the disgorgement against HEEP and CU Fund is appropriate because as the sole employee of HEEP and CU Fund, he would have the power to shut these companies down. *See Capital Tel. Co., Inc. v. FCC*, 498 F.2d 734, 738 (D.C. Cir. 1974) (holding that "[t]he courts have consistently recognized that a corporate entity may be disregarded in the interest of public convenience, fairness and equity . . . . [W]hen the notion of legal entity is used to defeat public convenience, justify wrong, protect fraud, or defend crime, the law will regard the corporation as an association of persons") (internal citations and quotations omitted)).

[416] *See, e.g.*, Chen Answer at 11-12.

[417] The Commission has not in the past held oral argument on Orders to Show Cause which have originated from OE Staff Reports. Thus, in denying Dr. Chen's request, he is being treated consistently with parties in other similar proceedings. *See, e.g.*, *Barclays*, 144 FERC ¶ 61,141; *Competitive Energy Services, LLC*, 144 FERC ¶ 61,163; *Richard Silkman*, 144 FERC ¶ 61,164; *Lincoln Paper and Tissue*, 144 FERC ¶ 61,162.

argument. We therefore decline Dr. Chen's invitation to allow oral argument in this matter.[418]

E. Rehearing

193. Given Respondents' election under section 31(d)(3)(A) of the FPA, this Order will not be subject to rehearing.[419] If a person elects the procedure under section 31(d)(3) of the FPA, the statute provides for (i) prompt assessment of a penalty by Commission order; (ii) if the penalty is unpaid within 60 days, the Commission shall institute a proceeding in the appropriate district court seeking an order affirming the assessment of a civil penalty and that court shall have the authority to review *de novo* the law and facts involved; and (iii) the district court shall have the jurisdiction to enforce, modify, or set aside, in whole or in part, such penalty assessment. Following this process, a person can appeal to a United States Court of Appeals within the appropriate time for review of the district court order.[420]

The Commission orders:

(A) The Commission hereby directs Dr. Chen to pay to the United States Treasury by a wire transfer a sum of $1 million in civil penalties within 60 days of the issuance of this order, as discussed in the body of this order. If Dr. Chen does not make this civil penalty payment within the stated time period, interest payable to the United States Treasury will begin to accrue pursuant to the Commission's regulations at 18 C.F.R. § 35.19a (2012) from the date that payment is due.

(B) The Commission hereby directs HEEP to pay to the United States Treasury by a wire transfer a sum of $1,920,000 in civil penalties within 60 days of the issuance of this order, as discussed in the body of this order. If HEEP does not make this civil penalty payment within the stated time period, interest payable to the United States

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[418] *See, e.g., Perez v. Mortgage Bankers Ass'n.*, No. 13-1041, *slip op.* at 8 (S. Ct. March 9, 2015) ("that the very basic tenet of administrative law [is] that agencies should be free to fashion their own rules of procedure," quoting *Vermont Yankee*, 435 U.S., 519, 544 (1978)).

[419] *See Process for Assessing Civil Penalties*, 117 FERC ¶ 61,317, at P 5 (2006); *see also Barclays*, 144 FERC ¶ 61,041 at P 152; *Competitive Energy Services, LLC*, 144 FERC ¶ 61,163 at P 104; *Richard Silkman*, 144 FERC ¶ 61,164 at P 96; *Lincoln Paper and Tissue, LLC*, 144 FERC ¶ 61,162 at P 80.

[420] 16 U.S.C §823b(d)(3) (2012).

Treasury will begin to accrue pursuant to the Commission's regulations at 18 C.F.R. § 35.19a from the date that payment is late.

(C) The Commission hereby directs CU Fund to pay to the United States Treasury by a wire transfer a sum of $ 10,080,000 in civil penalties within 60 days of the issuance of this order, as discussed in the body of this order. If CU Fund does not make this civil penalty payment within the stated time period, interest payable to the United States Treasury will begin to accrue pursuant to the Commission's regulations at 18 C.F.R. § 35.19a from the date that payment is due.

(D) The Commission hereby directs Powhatan to pay to the United States Treasury by a wire transfer a sum of $16,800,000 in civil penalties within 60 days of the issuance of this order, as discussed in the body of this order. If Powhatan does not make this civil penalty payment within the stated time period, interest payable to the United States Treasury will begin to accrue pursuant to the Commission's regulations at 18 C.F.R. § 35.19a from the date that payment is due.

(E) The Commission hereby directs HEEP, within 60 days of the issuance of this order, to distribute its unjust profits, plus interest, to PJM, as discussed in the body of this order.

(F) The Commission hereby directs CU Fund, within 60 days of the issuance of this order, to distribute its unjust profits, plus interest, to PJM, as discussed in the body of this order.

(G) The Commission hereby directs Powhatan, within 60 days of the issuance of this order, to distribute its unjust profits, plus interest, to PJM, as discussed in the body of this order.

(H) The Commission directs PJM to establish a method to resettle and distribute the resettled MLSA payments in a manner which identifies: (i) the market participants that would have received higher MLSA payments in the absence of Respondents' activity during the Manipulation Period; and (ii) the amounts of those higher payments. The Commission directs PJM to use the disgorgement funds and interest it receives pursuant to this Order from HEEP, CU Fund, and Powhatan to provide reimbursement of MLSA payments, and any available interest, to those entities identified as a result of PJM's proposed methodology. PJM shall provide its proposed methodology to resettle and distribute the MLSA payments to the Director of OE within 45 days of

receipt of all of the disgorgement and interest funds from HEEP, CU Fund and Powhatan for the Director's approval. PJM shall distribute the funds to the entities it has identified promptly after receiving the Director of OE's approval of the resettlement and distribution methodology.

By the Commission. Chairman Bay is not participating.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

EXHIBIT 2

149 FERC ¶ 61,263
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Cheryl A. LaFleur, Chairman;
Philip D. Moeller, and Tony Clark.

Houlian Chen
Powhatan Energy Fund, LLC
HEEP Fund, LLC
CU Fund, Inc.

Docket No. IN15-3-000

ORDER REVISING SHOW CAUSE ORDER

(Issued December 18, 2014)

On December 17, 2014, the Commission issued an order in the above-captioned proceeding. *Houlian Chen, et. al*, 149 FERC ¶ 61,261 (2014). The last sentence of Paragraph 1 and the subsequent bullets are hereby corrected to read as follows:

> The Commission further directs Respondents to show cause why they should not be required to disgorge unjust profits with interest and be assessed civil penalties in the following amounts:
>
> • *Powhatan Energy Fund*: $16,800,000 civil penalty; $3,465,108 disgorgement
> • *CU Fund*: $10,080,000 civil penalty; $1,080,576 disgorgement
> • *HEEP Fund*: $1,920,000 civil penalty; $173,100 disgorgement
> • *Houlian "Alan" Chen*: $500,000 for trades executed through and on behalf of HEEP Fund and Powhatan and an additional $500,000 for trades executed through and on behalf of CU Fund.
>
> This order also corrects Ordering Paragraph (B) to read as follows:
>
> (B) Within 30 days of the date of this order, Respondents must file an answer in accordance with Rule 213 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213, showing cause why their alleged violation should not warrant the assessment of civil penalties and disgorgement with interest in the

amounts described in Paragraph 1 of this order, or a modification of ~~that~~ those amounts consistent with section 31(d)(4) of the FPA.

By the Commission. Commissioner Bay is not participating.

(S E A L)

Kimberly D. Bose,
Secretary.

149 FERC ¶ 61,261
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Cheryl A. LaFleur, Chairman;
Philip D. Moeller, and Tony Clark.

Houlian Chen
Powhatan Energy Fund, LLC
HEEP Fund, LLC
CU Fund, Inc.

Docket No. IN15-3-000

ORDER TO SHOW CAUSE AND NOTICE OF PROPOSED PENALTY

(Issued December 17, 2014)

1. Pursuant to Rule 209(a)(2) of the Commission's Rules of Practice and Procedure,[1] the Commission's Revised Policy Statement on Enforcement,[2] and the Commission's Statement of Administrative Policy Regarding the Process for Assessing Civil Penalties,[3] the Commission directs the above-captioned respondents, Houlian "Alan" Chen, HEEP Fund, Inc., CU Fund, Inc., and Powhatan Energy Fund, LLC (together, Respondents), to show cause why they should not be found to have violated section 1c.2 of the Commission's regulations and section 222 of the Federal Power Act (FPA) by engaging in fraudulent Up To Congestion (UTC) transactions in PJM Interconnection L.L.C.'s energy markets.[4] The Commission further directs Respondents to show cause why they should not be assessed civil penalties in the following amounts:

- *Powhatan Energy Fund*: $16,800,000
- *CU Fund*: $10,080,000
- *HEEP Fund*: $1,920,000

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[1] 18 C.F.R. § 385.209(a)(2).

[2] *Enforcement of Statutes, Regulations and Orders*, 123 FERC ¶ 61,156, at P 35-36 (2008).

[3] *Process for Assessing Civil Penalties*, 117 FERC ¶ 61,317, at P 5 (2006).

[4] 18 C.F.R. § 1c.2; 16 U.S.C. § 824v(a).

- *Houlian "Alan" Chen*: $500,000 for trades executed through and on behalf of HEEP Fund and Powhatan and an additional $500,000 for trades executed through and on behalf of CU Fund.

Respondents may also seek a modification of those amounts consistent with section 31(d)(4) of the FPA.[5] Pursuant to Rule 213(a) of the Commission's Rules of Practice and Procedure,[6] the Commission directs Respondents to file an answer with the Commission within 30 days of the date of this order. Office of Enforcement Staff (OE staff) may reply to Respondent's answer within 30 days of the filing of the answer. The Commission will consider these pleadings as part of its review of this proceeding.

2. This case presents allegations by OE staff of Respondents' violation of the Commission's Prohibition of Energy Market Manipulation. These allegations arose out of an investigation conducted by OE staff and are described in the Enforcement Staff Report and Recommendation submitted to the Commission on December 2, 2014 (OE Staff Report).[7] Issuance of this order does not indicate Commission adoption or endorsement of the OE Staff Report.

3. The OE Staff Report alleges that Chen, trading on behalf of HEEP Fund and Powhatan Energy Fund, conceived of a fraudulent scheme in connection with the UTC markets operated by PJM; that he communicated the details of that fraudulent scheme to the principals of Powhatan Energy Fund, who knowingly encouraged him to implement it; and that he did implement it on behalf of Powhatan Energy Fund, HEEP Fund, and, later, CU Fund. Specifically, OE staff alleges that Chen devised and implemented a manipulative scheme to inflate trade volumes of UTCs – through a series of offsetting wash-like trades designed to wrongfully collect large amounts of market credits known as Marginal Loss Surplus Allocations (MLSA). The OE Staff Report alleges that, with Powhatan's knowledge and encouragement, Chen placed UTC trades in opposite directions on the same paths, in the same volumes, during the same hours for the purpose

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[5] We note that under section 31(d)(4) of the FPA, 16 U.S.C. 823b(d)(4), the Commission may "compromise, modify, or remit, with or without conditions, any civil penalty which may be imposed . . . at any time prior to a final decision by the court of appeals . . . or by the district court."

[6] 18 C.F.R. § 385.213(a).

[7] The OE Staff Report is attached to this order as Appendix A. The OE Staff Report describes the background of OE staff's investigation, findings and analysis, and proposed sanctions.

of creating the illusion of bona fide UTC trading and thereby to capture large amounts of MLSA that PJM distributed at that time to UTC transactions with paid transmission.

4. In light of the allegations contained in the OE Staff Report, the Commission directs Respondents to respond to this order as set forth above.[8] This order also is the notice of proposed penalty required pursuant to section 31 of the FPA.[9] In the answer to this order, Respondents have the option to choose between either: (a) an administrative hearing before an ALJ at the Commission prior to the assessment of a penalty under section 31(d)(2); or (b) an immediate penalty assessment by the Commission under section 31(d)(3)(A). If Respondents elect an administrative hearing before an ALJ, the Commission will issue a hearing order unless it is determined that the matter can be resolved in a summary disposition; if Respondents elect an immediate penalty assessment, and if, after a review of the full record to be developed in this proceeding, the Commission finds a violation, the Commission will issue an order assessing a penalty. If such penalty is not paid within 60 days of assessment, the Commission will commence an action in a United States district court for an order affirming the penalty.[10]

5. The Commission authorizes OE staff to disclose information obtained during the course of the investigation as necessary to advance this matter.

The Commission orders:

(A) Within 30 days of the date of this order, Respondents must file an answer in accordance with Rule 213 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213, showing cause why they should not be found to have violated 18 C.F.R. § 1c.2 and 16 U.S.C. § 824v(a) with respect to their UTC trading in PJM.

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[8] Under 18 C.F.R. § 385.213(c), Respondents must file an answer that provides a clear and concise statement regarding any disputed factual issues and any law upon which he relies. Respondents must also, to the extent practicable, admit or deny, specifically and in detail, each material allegation contained in the OE Staff Report and set forth every defense relied upon. Failure to answer an order to show cause will be treated as a general denial and may be a basis for summary disposition under Rule 217. 18 C.F.R. § 385.213(e)(2).

[9] 16 U.S.C. § 823b(d).

[10] FPA Section 31(d)(3)(B), 16 U.S.C. § 823b(d)(3)(B). *See also Process for Assessing Civil Penalties, supra* note 3.

(B) Within 30 days of the date of this order, Respondents must file an answer in accordance with Rule 213 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213, showing cause why their alleged violation should not warrant the assessment of civil penalties in the amounts described in Paragraph 1 of this order, or a modification of that amount consistent with section 31(d)(4) of the FPA.

(C) In any answer, Respondents should address any matter, legal, factual or procedural, that they would urge in the Commission's consideration of this matter. To the extent that Respondents cite any material not cited in the OE Staff Report, Respondents are directed to file non-publicly one (1) copy of such material on CD-ROM or DVD in the captioned dockets and to serve a copy of same on OE staff.

(D) Pursuant to section 31(d)(1) of the FPA, within 30 days of the date of this order, Respondents may also make an election to have the procedures set forth in section 31(d)(3) of the FPA apply to this proceeding. Under that provision, if the Commission finds a violation, the Commission will issue a penalty assessment and, if not paid within 60 days of the order assessing penalties, the Commission will institute an action in the appropriate United States district court. Should Respondents fail to make a timely election under section 31(d)(1), the procedures of section 31(d)(2) will apply.

(E) Within 30 days of the filing of the answer by Respondents, Enforcement staff may file a reply with the Commission.

By the Commission. Commissioner Bay is not participating.

(S E A L)

Kimberly D. Bose,
Secretary.

APPENDIX A

FEDERAL ENERGY REGULATORY COMMISSION

Houlian Chen, HEEP Fund Inc., CU Fund Inc.,
and Powhatan Energy Fund, LLC

Docket No. IN15-3-000

Enforcement Staff Report and Recommendation

Office of Enforcement

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I. Executive Summary

In this report, Enforcement staff recommends that the Commission issue to HEEP Fund Inc., CU Fund Inc., Powhatan Energy Fund, LLC, and to Houlian "Alan" Chen, the trader who traded on behalf of all three, an order to show cause why they should not be required to disgorge unlawfully obtained profits and to pay civil penalties for violating the Commission's Anti-Manipulation Rule.

This is a matter in which a successful and experienced trader – a man who had profitably traded in the PJM Interconnection (PJM) market for years, consistently pursuing legitimate arbitrage opportunities – decided to cheat. Through his meticulous study of the market, Chen discovered a method to make money "almost risk-free" by, in the words of Kevin Gates, the fund manager who partnered with Chen in this enterprise through Powhatan, "moving electricity around in a circle."

Chen's manipulation involved a product in PJM called "Up-to Congestion" (UTC), which functions as a swap of the difference or "spread" between the price of electricity at two locations in the Day-Ahead market and the same two points in the Real-Time market. Arbitrageurs of UTC can profit when the price spread between those locations moves favorably from the Day-Ahead to the Real-Time market, and lose money when the price movement is unfavorable. For example: a trader is willing to pay up to $15 for the spread between points A and B. If the Day-Ahead spread between A and B is $10, then the bid clears and the trader pays $10 (plus transaction costs). The next day the trader is paid the Real-Time spread between A and B. So if the Real-Time spread increases to $20, the trader earns a profit of $10 (less transaction costs), and if the Real-Time spread decreases to $5, the trader loses $5 (plus transaction costs).

Chen understood this product well, and had traded it profitably for years. But he transformed his trading when, in late 2009, he learned that PJM had begun to distribute pro rata shares of a pool of funds called the marginal loss surplus allocation (MLSA, sometimes called "transmission loss credits" or "TLC") to UTC trades. The MLSA is a pool of surplus money arising from the fact that PJM charges buyers more for transmission losses than it distributes to sellers. Previously, PJM had distributed MLSA only to market participants trading physical power. Soon after he began receiving MLSA, Chen figured out that the amount of MLSA was relatively predictable and that it could, during periods of high load, be greater than the transaction costs of scheduling UTC trades – costs that were themselves predictable.

Chen then figured out that he could do enormous volumes of wash-like trades and thereby qualify to receive payments of the MLSA, intended for bona fide transactions. In essence, Chen realized he could be paid simply for placing trades – and in particular, trades that cancelled one another out. Instead of contacting PJM, Chen shared this insight with Kevin Gates and the other investors in Powhatan, who, though they knew this opportunity was "something that nature shouldn't allow" and would be shut down as soon as it was discovered, eagerly endorsed a strategy of gaming the PJM settlement

system with a series of non-bona fide wash-type trades designed to collect large amounts of MLSA from sheer trading volume without taking a position in the market.

Chen began his MLSA volume trading with correlated transaction pairs involving electrically similar locations, the first from A to B and the second from B to C. In combination, these were effectively trades between A and C, where the change in price spread between A and C was expected to be very small. After this strategy unexpectedly failed one day in late May 2010, Chen decided that the best way to avoid the price spreads associated with UTCs was to make equal and opposite trades between the same two points (i.e., a trade from A to B paired with a trade from B to A). Since the two trades would face identical but opposite fluctuations in prices, these "round trip" trades would cancel out Chen's price risk and allow him to increase profits by ramping up his trading volume enormously. These trades make no sense from the standpoint of price arbitrage, since they wash themselves out and leave the trader with transaction costs. Though they were the opposite of legitimate spread arbitrage trades, Chen made them because he expected MLSA to exceed transaction costs, allowing him to come away with a profit. In short, pursuing this strategy would allow Chen to execute enormous volumes of trades and to collect a corresponding amount of MLSA because of the artificial appearance of economic activity.

With Gates' enthusiastic support, Chen implemented his manipulative strategy in large volumes on behalf of HEEP and Powhatan. In fact, Chen was soon one of the biggest traders in PJM by gross volume, even though a huge portion of his net volume was essentially flat (not completely flat, because Chen continued to do some actual spread trades during the period). The profits from this strategy were so great that Chen decided he wanted to capture an even greater share for himself, so he violated the spirit of his Advisory Agreement with Powhatan by surreptitiously creating another company – CU Fund –to capture profits he would otherwise have had to share with Gates.

Chen's scheme was to execute pairs of large volume UTC trades in identical volumes and hours and in opposite directions on the same paths – paths where Chen had every expectation that the UTC trades would clear. Like wash trades, these transactions left Chen with no net position in the market, but created the illusion of bona fide market activity. PJM's automated settlement software, however, was not programmed to detect this particular scheme, so it awarded these trades MLSA. The scheme was highly profitable, because PJM's predictable allocations of MLSA were substantially greater than the predictable transaction costs associated with the same transactions.

In sum, Chen went into PJM's UTC marketplace, where market participants are assumed either to be hedging physical transactions or promoting market efficiency by speculating on congestion price movements between the Day-Ahead and Real-Time markets, but he did neither of those things. He hedged nothing, provided no good, no service, nor any other benefit to the market, took no meaningful risk and yet came away with over $10 million that should have gone to bona fide market participants, and, ultimately, in large part to ratepayers in PJM.

II. Background

A. Respondents & Key Persons

1. Chen & the Chen Entities

a. Houlian ("Alan") Chen

Houlian "Alan" Chen is a native of the Zhejing Province in the People's Republic of China, and holds a doctorate in power engineering from Tsinghua University in Beijing.[1] He came to the United States in 1995 to perform postgraduate work at Drexel University.[2] He subsequently worked as an analyst at a succession of companies, including Entergy, Enron, and UBS.[3] Chen's responsibilities included creating and using models to forecast power prices.[4]

In 2005, Chen left UBS to join Merrill Lynch Commodities, where he gained his first exposure to UTC transactions.[5] After Merrill Lynch decided not to pursue UTC trading, Chen left to create his own firm, HEEP Fund, Inc.[6] He subsequently founded CU Fund in June 2010.[7]

Chen executed all of the transactions at issue in this proceeding. He is a respondent in this proceeding.

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[1] Testimony of Houlian Chen Vol. I (Oct. 7, 2010) (Chen Test. Vol. I) Tr. 12:1-22; Written Submission to Commission Investigation Staff on Behalf of Dr. Houlian Chen (Dec. 13, 2010) ("Chen Submission") at 12.

[2] Chen Test. Vol. I Tr. 13:13 – 14:12. Chen reports his status as of December 13, 2010 as that of a permanent resident alien, though he notes he has been in the process of seeking citizenship in the United States. Chen Submission at 12. He currently resides in Texas. Chen Submission at 12.

[3] Chen Test. Vol. I Tr. 14:13 – 27:13. Chen's employment at Enron Net Works ran from approximately 1999 – 2002, a period encompassing the Western Energy Crisis of 2000 - 2001. Chen Test. Vol. I Tr. 23:13-20. Chen wound up at UBS when Enron Net Works, L.L.C., along with Enron Power Marketing, Inc. and Enron North America Corp. were sold to UBS Warburg. Chen Test. Vol. I Tr. 23:15-18 *and see*, *UBS AG*, 98 FERC ¶ 61,255 (2002); *Enron Corp. et al*., 99 FERC ¶ 62,053 (2002).

[4] Chen Submission at 13.

[5] Chen Test. Vol. I Tr. 27:8 – 29:8.

[6] Chen Test. Vol. I Tr. 37:1-14.

[7] Chen Test. Vol. I Tr. 41:18-22; Chen Dec. 13, 2010 Response to Data Request #15a.

b. HEEP Fund Inc.

Chen created HEEP Fund, Inc., on August 15, 2007 with an initial investment of $200,000.[8] HEEP Fund is incorporated in Texas as an S-type corporation with Chen as sole shareholder and employee.[9] Chen executed his first UTC trade for HEEP Fund in PJM on September 7, 2007.[10] Chen, through HEEP Fund, executed certain advisory agreements pursuant to which trades executed for HEEP Fund would also be executed by Chen on behalf of certain funds owned in part by Kevin Gates.[11] Chen has traded primarily in UTCs on behalf of HEEP Fund.[12] Chen ceased trading on behalf of HEEP Fund on August 18, 2010.[13]

HEEP is a respondent in this proceeding.

c. CU Fund Inc.

Chen created a second fund, called CU Fund, Inc., on June 28, 2010.[14] Chen is the sole owner and employee of CU Fund.[15] Chen testified that he created CU Fund to allow him to take on more potentially profitable risk than he was able to do with HEEP Fund, and also to engage in the trading of Financial Transmission Rights (FTRs), which he was prohibited to do through HEEP Fund under the Advisory Agreement with Powhatan.[16] Chen never executed any FTR transactions on CU Fund's behalf, but instead used it to implement the same UTC trading strategy he was already implementing for HEEP and

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[8] Chen Test. Vol. I Tr. 38:10-16; Chen Submission at 13.

[9] Chen Test. Vol. I Tr. 37:18-22; Chen Dec. 13, 2010 Response to Data Request # 15a.

[10] Chen Dec. 13, 2010 Response to Data Request #15a.

[11] *See* POW00000071-73 (Advisory Agreement between HEEP Fund Inc. and TFS Capital LLC); POW00000067-70 (Advisory Agreement between HEEP Fund Inc. and Powhatan Energy Fund LLC). The Advisory Agreement with TFS Capital expressly contemplated that TFS Capital would be succeeded in interest by Huntrise Energy Fund LLC.

[12] Chen Submission at 13. As discussed below, HEEP Fund was barred by its Advisory Agreements from trading anything but UTCs. *See* Testimony of Kevin Gates Vol. II Exh. 11 (Sept. 7, 2011) (K. Gates Test. Vol. II) (POW00000071).

[13] Chen Test. Vol. I Tr. 47:14-15.

[14] Chen Test. Vol. I Tr. 41:18-22; Chen Dec. 13, 2010 Response to Data Request #15a.

[15] Chen Dec. 13, 2010 Response to Data Request #15c.

[16] Chen Test. Vol. I Tr. 41:23 – 42:8; Chen Submission at 17 n.16.

Gates. Chen began trading in the name of CU Fund on July 16, 2010 and ceased doing so on August 2, 2010.[17]

CU Fund is a respondent in this proceeding.

2. Kevin Gates and the Gates Entities

a. Kevin Gates

Gates received a B.S. in Chemical Engineering from the University of Virginia in 1994.[18] In 1997, he founded TFS Capital LLC along with his brother Richard Gates and Lawrence "Larry" Eiben.[19] In 2008, Eiben recruited Chen to trade on behalf of various companies in which he and Gates held an ownership interest.[20] During the period in which Chen traded on behalf of Gates' companies, Gates managed the relationship with Chen and was the primary point of contact between Chen and the other owners and investors.[21] Although Chen was not required to obtain Gates' approval before executing a trade, Gates was fully informed about Chen's trading strategies and their performance, had the opportunity and authority to approve or disapprove Chen's actions on behalf of his own companies, and personally profited (for himself and on behalf of the other owners of Powhatan) from Chen's trading.[22]

Gates is not a respondent in this proceeding.

b. TFS Capital

TFS Capital LLC (TFS or TFS Capital) is a Virginia limited liability company.[23] It describes itself as "an employee-owned independent advisory firm that provides

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[17] Second Testimony of Houlian Chen (Jul. 20, 2011) (Chen Test. Vol. II) Tr. 20:6-19.

[18] Resumé of Kevin Gates, POW00000019. Most of Chen's communications concerning the Huntrise and Powhatan Funds were with Kevin Gates, referred to in this Report as "Gates." When we refer to Kevin's brother and fellow portfolio manager at TFS Capital, Richard Gates, we use his full name.

[19] Testimony of Richard J. Gates Vol. I (May 7, 2012) (R. Gates Test. Vol. I) Tr. 21:9 – 22:5.

[20] *See* Chen Test. Vol. I Tr. 39:15-21.

[21] *See, e.g.*, Testimony of Lawrence Eiben (Sep. 23, 2010) (Eiben Test.) Tr. 31:22 – 32:12; Chen Test. Vol. I Tr. 41:6; POW00007910 (listing "Oversee Alan" as one of Gates' responsibilities).

[22] Testimony of Kevin Gates Vol. I (Sep. 23, 2010) (K. Gates Test. Vol. I) Tr. 27:5-21, 32:1-8.

[23] Certificate of Incorporation (POW00001492).

portfolio management services to investment funds."[24] The employee-owners of TFS include Larry Eiben, Richard Gates, and Kevin Gates.[25] TFS was founded in 1997 and has offices in Richmond and Crozet, Virginia, as well as in West Chester, Pennsylvania, where its trading operations appear to be centered.[26]

In February 2008, Larry Eiben, Chief Operating Officer and Co-Portfolio Manager of TFS Capital, contacted Chen to propose that Chen provide certain portfolio management services to TFS Capital.[27] On May 1, 2008, TFS Capital and HEEP executed an Advisory Agreement, pursuant to which Chen agreed to execute UTC trades on behalf of TFS Capital mirroring UTC trades he executed for HEEP Fund on a two-and-a-half-to-one basis.[28] That is, for each 1 MW of UTC Chen traded on behalf of HEEP Fund, the Advisory Agreement obligated him to execute a 2.5 MW trade at the same hour and location on behalf of TFS Capital.[29] Under the terms of the Advisory Agreement, TFS compensated Chen based on a percentage of the profits earned by his trades for TFS.[30]

Pursuant to the Advisory Agreement, Chen traded on behalf of TFS Capital in April 2008.[31] Shortly thereafter, Chen learned that a new entity had been created by his contacts at TFS Capital, and that the new entity, Huntrise Energy Fund, LLC (Huntrise),

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[24] *See* http://www.tfscapital.com/about/firm-overview/ (visited March 20, 2014); *see also* Powhatan Nov. 22, 2010 Response to Data Request #7(d).

[25] *See* K. Gates Test. Vol. I Tr. 41:20 – 42:19; Powhatan Nov. 22, 2010 Response to Data Request #7(e); R. Gates Test. Vol. I Tr. 17:20 – 18:17. TFS also has employees with "pseudo equity," who are compensated as if they were owners but who in fact are employees only. *See* R. Gates Test. Vol. I Tr. 32:23 – 33:11; K. Gates Test. Vol. I Tr. 42:6-19. Chao Chen and Eric Newman are, along with Eiben and the Gates brothers, co-portfolio managers. Gregory Sekelsky is Chief Financial Officer and Mike Frederick is Director of Business Development. *See* http://www.tfscapital.com/about/firm-leadership/ (visited Jul. 16, 2014).

[26] *See* http://www.tfscapital.com/contact-us/ (visited March 20, 2014).

[27] Chen Test. Vol. I Tr. 39:15-21; K. Gates Test. Vol. I Tr. 72:16 – 73:1; Eiben Test. Tr. 15:4 – 16:14; http://www.tfscapital.com/about/firm-leadership/ (visited March 20, 2014).

[28] POW00000071. The multiplier eventually grew to 4:1. Chen Test. Vol. I Tr. 39:10-14.

[29] *Id*. The agreement thus ensured that Chen had a personal financial stake for every trade Chen placed on Powhatan's behalf.

[30] *Id*.

[31] Chen Test. Vol. I Tr. 39:24 – 40:2.

would succeed to TFS Capital's interest in the Advisory Agreement.[32] In June 2008, Chen ceased trading on behalf of TFS Capital and began trading on behalf of Huntrise.

Staff does not allege that the UTC transactions executed by Chen on behalf of TFS Capital were manipulative. Consequently, TFS Capital is not a respondent in this proceeding. It is, however, a predecessor in interest in the Advisory Agreement pursuant to which Chen traded on behalf of Huntrise. This Advisory Agreement was nearly identical to that of Powhatan (other than the volumetric multiplier), in addition to which TFS is controlled by the same small circle of individuals as Huntrise and Powhatan.

c. Huntrise Energy Fund, LLC

During the period at issue in this proceeding, Huntrise Energy Fund, LLC (Huntrise) was a private investment fund with its principal place of business in Richmond, Virginia.[33] It was created on February 25, 2008.[34] During the time period under investigation, the Huntrise Energy Fund had one investor, the Huntrise Fund of Funds.[35]

On July 3, 2009, HEEP and Huntrise executed a non-disclosure agreement that permitted the two funds to share information with one another, while preserving the confidentiality of the information.[36] Chen traded UTCs on behalf of Huntrise from June 3, 2008 through May 5, 2010.[37] Because the manipulative trading for which this report recommends disgorgement and civil penalties occurred after Chen ceased trading for it, Huntrise is not a respondent in this proceeding.

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[32] Chen Test. Vol. I Tr. 41:17-21. This was contemplated by the terms of the Advisory Agreement. *See* POW00000071.

[33] Powhatan Nov. 22, 2010 Response to Data Request #7(a); POW0000105.

[34] Powhatan Nov. 22, 2010 Response to Data Request #7(d).

[35] Testimony of Gregory M. Sekelsky, Tr. 28:22-23. The Huntrise Fund of Funds (HFOF) is controlled by its managing members, Eiben and the Gates brothers. *See* K. Gates Test. Vol. I Tr. 50:5-8, 17-19. HFOF is owned by 11 individuals, including the Gates brothers, Eiben, Eric Newman, Chao Chen, Sam Harris, and Greg Sekelsky. POW00001824-27. TFS Capital Management was the sponsor and managing member of HFOF when it was founded in 2005. *See* Huntrise Fund of Funds Form D, available at http://www.sec.gov/Archives/edgar/vprr/05/9999999997-05-029004 (visited Jul. 11, 2014).

[36] POW00000074. The only representatives of Huntrise who were permitted access to HEEP's proprietary information were Kevin Gates and Chao Chen. POW00000075.

[37] Chen Test. Vol. II Ex. Nos. 44, 46; K. Gates Test. Vol. I Tr. 55:20 – 56:5.

d. Powhatan Energy Fund, LLC

On March 22, 2010, Gates and his fellow investors created a new fund, Powhatan Energy Fund, LLC (Powhatan).[38] During the period at issue in this proceeding, Powhatan was principally owned by Kevin Gates, his brother Richard, and Larry Eiben, though others had smaller ownership interests.[39] On May 18, 2010, Powhatan and HEEP Fund executed an Advisory Agreement under which Chen agreed to trade UTCs for Powhatan on the basis of a 20-to-1 multiplier: "This means that for every megawatt that HEEP trades for HEEP's account, HEEP will place trades for 20 megawatts in [Powhatan's] account."[40]

Powhatan is a private investment fund with no employees.[41] The managing member of Powhatan Energy Fund is LSE Capital Management LLC (LSE), the sole member of which is Larry Eiben.[42] The executive officers of Powhatan are Kevin Gates, Richard Gates, and Eric Newman.[43] Powhatan and LSE both have their principal place of business in Virginia, and Powhatan reports that all of its executive officers are based in Virginia as well.[44]

Powhatan is a respondent in this proceeding.

B. The PJM Marketplace

In several regions of the United States, entities regulated by the Commission, called Regional Transmission Organizations (RTOs) or Independent System Operators (ISOs), operate wholesale markets for electricity. One of these RTOs is PJM, which operates a 13-state wholesale electricity market stretching from Illinois to North Carolina.

In these regional markets, sellers and buyers (such as "load-serving entities," i.e., entities that provide electricity to retail customers) submit prices at which they are willing

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[38] Powhatan Nov. 22, 2010 Response to Data Request #7(d).

[39] According to discovery produced by Powhatan, during the period May – August 2010, Eiben and the Gates brothers together possessed an ownership stake of 86% - 91%. Eric Newman, Chao Chen, Sam Harris, Mike Frederick and Greg Sekelsky made up the remainder. POW00001824-27; Eiben Test. Tr. 21:15 – 22:8.

[40] POW00000067.

[41] Powhatan Nov. 22, 2010 Response to Data Request #1.

[42] Powhatan Nov. 22, 2010 Response to Data Request #7.

[43] *See* Powhatan SEC Form D, available at http://www.sec.gov/Archives/edgar/data/1489323/000148932311000002/xslFormDX01/primary_doc.xml (visited Jul. 11, 2014); *see also*, K. Gates Test. Vol. I Tr. 16:20-25.

[44] *See* POW00001445, POW00001455, POW00001325.

to transact. To send appropriate price signals, the prices at which electricity is bought and sold in ISOs and RTOs vary to some extent from one location to another (called "nodes") within the same region. For that reason, market prices for energy are called "Locational Marginal Prices," or "LMPs." There are three components to Locational Marginal Prices: an energy price (which is uniform throughout the RTO or ISO), congestion charges (which may vary from one node to another), and line loss charges (discussed below).[45]

PJM operates both "Day-Ahead" and "Real-Time" markets for energy. As the name indicates, the Day-Ahead market operates one day ahead of the date on which the energy actually flows through power lines. The Real-Time market operates on the day the energy is transmitted. The "vast bulk of transactions occur in the Day-Ahead market."[46]

C. Up-To Congestion Transactions

In PJM, both companies that actually flow electricity as well as purely financial traders (like Chen) can trade in a product called Up-To Congestion, or "UTC." UTC transactions were initially created at the Commission's behest as a tool for hedging congestion price risk associated with physical transactions. Over time, market participants came to view these as simply an alternative form of virtual transactions.

From the perspective of financial traders, UTC trades are a way to profit by correctly predicting whether, how much, and in what direction the price difference (or "spread") between two nodes will change between the Day-Ahead market and the Real-Time market. Successful UTC arbitrage trading requires both skill and specialized knowledge about, e.g., historical price trends, weather patterns, transmission outages, or generator status that may increase or decrease congestion at particular nodes.

A UTC transaction is a virtual product that "is nothing more than an Increment Bid and a Decrement Bid that clear together based on the price difference between the two nodes at which they are submitted."[47] Increments (INCs) and Decrements (DECs) are products traded in virtual transactions. A DEC is modeled in the Day-Ahead market as a purchase (demand), and pays the Day-Ahead price for the number of MW traded. But it is automatically matched with a sale (supply) in the Real-Time market and is paid the Real-Time price. An INC is the opposite. In virtual transactions, no energy is

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[45] *See generally* Energy Primer: A Handbook of Energy Market Basics at 65 (describing LMPs and their components), available at http://www.ferc.gov/market-oversight/guide/energy-primer.pdf (visited Jul. 21, 2014).

[46] *Black Oak Energy, LLC et al. v. PJM Interconnection, L.L.C.*, 125 FERC ¶ 61,042, at P 41 (2008).

[47] PJM Mot. for Leave to Answer, *Black Oak, LLC, et al. v. PJM Interconnection, LLC*, Docket No. EL08-14-000, at 6 (filed March 4, 2008).

supplied or consumed but, as discussed below, bona fide virtual transactions can be profitable to traders.

Although the historical purpose of the UTC was to "allow physical market participants to stipulate a maximum congestion charge they were willing to pay," by 2008 PJM permitted financial traders to "utilize[] up-to congestion transactions as purely financial trades to arbitrage price differences between points."[48] As the Commission described it:

> Under an Up-To congestion price arrangement, arbitrageurs may sell power at point A and buy power at point B in the Day-Ahead market as long as the price differential between these points is no greater than the specified amount. If during the Real-Time market, the spread between these points increases, the arbitrageur makes money; if the spread decreases, it loses money.[49]

The reason the Commission allows virtual traders to participate in ISOs and RTOs at all is that "market participants benefit from the trading activities engaged in by arbitrageurs through price convergence between the Day-Ahead and Real-Time market, a more stable market, [and] increased price discovery and market liquidity."[50]

The Commission and PJM approved the evolution of UTCs from a physical hedging tool to an instrument of financial speculation on the understanding that arbitrage between the Day-Ahead and Real-Time markets may make the prices in those markets converge and thereby make the PJM market as a whole more efficient. As the Commission has explained, "the purpose of arbitrage [by financial traders] is to try to take advantage of profitable price differences between the Day-Ahead and Real-Time markets."[51] Although they are purely financial, UTC transactions can affect prices in the Day-Ahead market as well as dispatch.[52]

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[48] *Id.* at 5.

[49] *Black Oak Energy, LLC, et al. v. PJM Interconnection, LLC*, 122 FERC ¶ 61,208, at P 22 n.85 (2008).

[50] *ISO New England*, 113 FERC ¶ 61,055, at P 46 (2005).

[51] *Black Oak Energy, LLC et al. v. PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,208, at P 44 (2008) (Order Denying Complaint).

[52] Order Denying Complaint at 17 (noting that there is a "price impact of the virtual transaction on the physical transmission system that forms the basis for both the Day-ahead and Real-time Energy Markets"); *see also* Financial Marketers Mot. for Leave to Answer, *Black Oak Energy LLC, et al. v. PJM Interconnection LLC*, Docket No.

EL08-14-000, at 19 (issued Jan. 10, 2008) (noting that "it is undoubtedly true that virtual transactions can alter dispatch patterns").

Until a tariff change in September 2010, PJM required UTC transactions to be associated with a transmission reservation. Financial traders typically used the cheapest option: non-firm point-to-point transmission, which in 2010 cost up to 67 cents per MWh to reserve on the Open Access Same Time Information System (OASIS), although exports to MISO were not assessed a transmission fee.[53] UTC traders also had to pay certain PJM market charges (such as reactive power, black start, and market monitor fees) amounting to 17 – 25 cents for each MWh successfully scheduled.[54]

D. Marginal Loss Surplus Allocations and How They Came to Be

When electricity travels through the grid, a certain amount of energy is lost to heating of the transmission lines. This is called "line loss." The farther energy travels on power lines, the greater the line loss.[55] To ensure that the market price at each pricing node reflects the actual costs of providing energy to that particular location, charges for line losses are one of the three components of Locational Marginal Prices in PJM and other RTOs and ISOs.

To promote market efficiency, the Commission has directed PJM to set the price for line losses at marginal, rather than average, cost.[56] Because marginal costs of line losses are higher than average costs, PJM collects more in line loss payments than the

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[53] *See* Monitoring Analytics' *PJM Marginal Loss Surplus Allocation and Market Participant Transaction Activity: May 15, 2010 through September 17, 2010* at 7 (Jan. 6, 2011) (IMM Referral). The transmission cost may sometimes receive a congestion adjustment reducing the effective cost of the transmission.

[54] *See* IMM Referral at 7-10. For his trades, Chen typically paid $0.20 - $0.22 per MWh in market charges.

[55] *Atlantic City Elec. Co. et al. v. PJM Interconnection, L.L.C.*, 115 FERC ¶ 61,132, at P 3 (2006) (2006 MLSA Order) ("As in the case of all electric transmission, there is some loss of the scheduled megawatts as the power is transmitted from the point of generation to the point of delivery. That is, the total megawatt-hours of energy received by customers is less than the total megawatt-hours of energy produced by generators. Such loss results in a cost PJM incurs to maintain the level of the scheduled power and to deliver it under conditions of system reliability.")

[56] *Id.* P 4 ("the actual cost of meeting load would be reduced by using the marginal loss method"); *id.* P 22 ("Billing on the basis of marginal costs ensures that each customer pays the proper marginal cost price for the power it is purchasing").

total amount of actual line losses. This results in a "marginal loss surplus."[57] Marginal loss surpluses increase with increased volumes of power placed on the grid.[58]

When the Commission directed PJM to set prices for line losses at marginal cost in 2006, it recognized that "a method needs to be determined for disbursing the over collected amounts."[59] The procedure for distributing the extra line loss payments is called "Marginal Loss Surplus Allocation," or MLSA.

At the outset, the Commission ruled out only one method for distributing MLSA: reimbursing market participants for the amount they actually paid for line losses. That approach was unacceptable, because it would undo the economic benefit of pricing line losses at marginal cost, which is to have prices reflect as nearly as possible the actual costs to the system.[60] PJM therefore needed to find a different way to distribute the marginal loss surplus. The particulars of PJM's MLSA distribution methodology were litigated in what came to be known as the "*Black Oak*" proceeding,[61] but in September 2009, the Commission ruled that MLSA was to be paid on a pro rata basis to market participants, including virtual traders, who reserved paid transmission on OASIS.[62] Although the litigation continued, it is this September 2009 Order that sets the stage for the conduct at issue in this investigation, because it is this order that approved the distribution of MLSA based on, among other factors, "the total MWh of cleared Up-To Congestion transactions (that paid for transmission service during such hour)."[63]

III. Chen's UTC Trading

A. Chen's Initial UTC Trading & Strategy Development

Chen first gained exposure to PJM's UTC market as an analyst at Merrill Lynch Commodities between 2005 and 2007. Chen was tasked with developing models to enable Merrill Lynch make a profitable foray into UTC trading.[64] Chen quickly grasped

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[57] *Id*. P 5 ("Use of the marginal loss method will result in PJM over recovering its expenditures… .").

[58] *See id*. P 5 ("It is a characteristic of the electric grid that marginal losses increase as the number of megawatts of power moved on the grid increases.").

[59] *Id*. P 24.

[60] *Id*.

[61] The first-named plaintiff was Black Oak Energy, LLC.

[62] *Black Oak Energy, LLC et al. v. PJM Interconnection, L.L.C.*, 128 FERC ¶ 61,262, at P 25 (2009). This litigation is discussed in detail infra at Section IV.B.4.a.

[63] *Id.* P 29.

[64] Chen Test. Vol. I Tr. 27:14 – 29:8, 30:15 – 31:10, 55:24 – 56:8.

the essence of UTC trading as a tool for both physical and financial transactions. For physical transactions, the UTC "provides a mechanism to hedge in [the] day-ahead market the price spread between source node and sink node by specifying the maximum price you are willing to pay for the congestion."[65] For financial transactions, Chen understood that:

> [t]he up-to congestion is like one type of financial trades [*sic*]. You're just trying to improve 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.[66]

From his in-depth examination of the market, Chen developed a model to forecast conditions under which UTC trading was likely to be profitable or unprofitable.[67] Based on historical spreads, Chen identified the most profitable nodes for both import and export.[68] He also developed what he called a "similar day" model, which enabled him to anticipate prices based on similar historical circumstances.[69] Test trades using Chen's model yielded promising results, but Merrill Lynch opted not to pursue a UTC trading strategy at that time, so Chen struck out on his own.[70]

Chen founded HEEP Fund in August 2007 and began trading in PJM the next month.[71] Since its inception, nearly all of Chen's trading for HEEP Fund has been in UTCs.[72] As he testified, Chen's initial UTC trading in HEEP Fund was highly cautious, involving few locations and small volumes.[73]

In the spring of 2008, Larry Eiben and Kevin Gates were seeking opportunities to gain exposure to the energy markets. Eiben heard about Chen, and soon reached out to him.[74] On May 1, 2008, after Gates had vetted Chen, they executed an advisory agreement between HEEP and TFS Capital in which Chen agreed to trade power in

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65 Chen Test. Vol. I Tr. 31:18-21.

66 Chen Test. Vol. I Tr. 31:14-18.

67 Chen Test. Vol. I Tr. 28:10-18, 31:2-10.

68 Chen Test. Vol. I Tr. 73:19 – 74:20.

69 Chen Test. Vol. I Tr. 74:24 – 75:5.

70 Chen Test. Vol. I Tr. 27:21 – 28:4, 37:4-14, 70:20 – 71:4.

71 Chen Test. Vol. I Tr. 37:1-2, 38:10-16, 78:1-4; Chen Submission at 13.

72 Chen Test. Vol. I Tr. 76:6-24.

73 Chen Test. Vol. I Tr. 77:4-17.

74 Chen Test. Vol. I Tr. 39:15-21.

Commission-jurisdictional energy markets on behalf of TFS Capital.[75] As Chen's Submission described it:

> Under the terms of this agreement, he traded for Heep Fund and for TFS (later through a separate TFS fund known as Huntrise). The megawatt volumes of trades that he put on for TFS/Huntrise were determined by the volume of his own trading for Heep Fund and by ratios that varied over time. For example, if Dr. Chen reserved 1 MW of transmission for Heep Fund, he might reserve (depending on the instructions he received from TFS) 4 MW of transmission for TFS/Huntrise (a 1 to 4 ratio). The TFS/Huntrise transactions were put on the same transmission paths Dr. Chen was using for Heep Fund.[76]

Through the end of 2009, Chen's trading was limited to UTC transactions placed in PJM on behalf of HEEP Fund and Huntrise/TFS. Throughout the time of his trading relationship with Gates, Chen provided Gates with daily and monthly trading reports listing UTC nodes traded, hours and volumes traded, hourly prices, and other such information.[77] In October 2008, Gates and his partner, Chao Chen (no relation to Alan Chen), met with Chen to discuss his UTC transactions and gain a deeper understanding of the mechanics of the UTC transactions and Chen's strategy in selecting nodes for trading.[78] Later, in July 2009, HEEP and Huntrise executed a Non-Disclosure Agreement allowing Gates and Chao Chen access to HEEP Fund's confidential business and proprietary trading strategy.[79]

Throughout this time, Chen's approach to UTC trading continued to be careful and highly risk-averse,[80] as he pursued a "low-risk, low-reward" trading strategy.[81] This

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[75] Advisory Agreement between HEEP Fund and TFS Capital (May 1, 2008) (POW00000071); *see also* Chen Submission at 13.

[76] Chen Submission at 13; *see also* Advisory Agreement between HEEP Fund and TFS Capital (May 1, 2008) (POW00000071).

[77] *See, e.g.*, POW00000488-91; POW0014142-46; POW00013949-53; POW00013998-14003; POW00000557 (K. Gates Test. Vol. II Ex. 4).

[78] *See, e.g.*, POW0017336, POW00015175, K. Gates Test. Vol. I Tr. 19:13.

[79] K. Gates Test. Vol. II Tr. 189:14-15.

[80] For example, Chen was highly averse to taking large counterflow positions, which are essentially bets that there would be less congestion in the Real-Time than in the Day-Ahead. *See* Email from Alan Chen to Kevin Gates (Jul. 22, 2008, 2:00 PM) (POW0001553) ("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.")

involved what Chen called "directional bets" whose profitability depended on favorable changes in congestion price between the Day-Ahead and Real-Time markets.[82] In July 2008, responding to an inquiry from Gates, Chen explained his strategy:

> Majority of my trades (>90%) are betting for prevailing-flow congestions. I pay the premium beforehand and collect the congestions whenever occurred. So generally speaking the risk is very limited. These types of trades are for volatility. As long as there are congestions, very likely they are going to make money. In very rare occasions I do put in very small positions for counter-flow positions. There [*sic*] types of trades are against volatility. As long as the congestions are not significant enough, they are going to make money.
>
> Another theme is that I pick a group of trades to counter balance each other a little bit. Even if one of the trades goes totally against you, there are some other trades would pick up some gains to offset some of the losses.
>
> So on a very hot day, I would pay the maximum of $50/MW to hold the prevailing-flow congestion position. In most cases the maximum losses would be $50/MW. Only very very rarely you could end up losing more than the premium of $50/MW you paid for.[83]

Chen tried to reduce his risk by placing trades in small volumes – nearly all of his bids were under 100 MWhs – and selecting what he called "correlated pairs" for his transactions.[84] The prices of these "correlated pairs" typically moved in similar ways, because of their geographic proximity.[85] For example, Chen would export to the MISO interface from one node and import from the MISO interface to a different node, creating a transmission pattern of A-to-B / B-to-C. The B portion of the trades neutralized one

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[81] Chen Test. Vol. I Tr. 51:3-6.

[82] *See* Chen Submission at 14.

[83] Email from Alan Chen to Kevin Gates (Jul. 22, 2008, 1:31 PM) (POW00008996).

[84] Chen Test. Vol. I Tr. 78:5-19. Ninety-nine percent of Chen's UTC trades during 2008 – 2009 were under 100 MW.

[85] *See* Affidavit of Craig Pirrong ¶ 17 (Pirrong Aff.). Much of this trading used nodes in the western area of PJM and the MISO interface. Chen Test. Vol. I Tr. 105:3 – 106:7. Through his analysis, he developed expectations at these nodes in terms of price changes between the Day-Ahead and Real-Time markets, and could design import or export UTC transactions at selected node pairs consistent with the anticipated price fluctuations. The PJM internal nodes Chen chose for his trades would typically move in the same direction and fluctuate with the LMPs at the MISO interface. Chen Test. Vol. I Tr. 78:21 – 79:4; 105:3 – 106:7.

another and the trade was effectively between A and C. Chen expected this strategy to reliably produce low but consistent positive returns over time. Chen's correlated pair trading was predicated on the assumption that the transactions would rarely, if ever, experience an unexpected asymmetric price change – i.e., a spike affecting only one half of the correlated pair – that could expose Chen to substantial losses. In other words, Chen expected the Day-Ahead and Real-Time prices at the interface node to be eliminated, resulting in a directional spread bet between two internal nodes that co-vary, or move together, because they would generally be subject to near-identical conditions.[86]

B. Chen Adapts His UTC Trading Strategy Based on MLSA Payments

1. Chen's Discovery and Initial Analysis of MLSA

Reviewing his account statements from PJM in October 2009, Chen noticed that he had begun receiving a new credit: the MLSA, or "transmission loss credit."[87] This prompted him to look into the matter, and he learned that "there's some kind of refunds [that] go back to 2007."[88] Chen also learned that these credits were being awarded pursuant to the Commission order in *Black Oak* approving PJM's proposal to distribute over-collected transmission losses to UTC traders reserving paid-for transmission in OASIS.[89]

Armed with data on the retroactive credit distributions, Chen began analyzing his prior trades for their eligibility for and receipt of MLSA, and told Gates what he had learned. In December 2009, Gates told his partners that although Chen's UTC trades for Huntrise had lost approximately $30,000 in November 2009, retroactive application of the MLSA credit meant that Huntrise actually wound up with a gain of over $400,000. Underscoring the artificiality of the profits, Gates used quotation marks to describe that month's gains: "net-net, we 'made' $410,000 last month."[90] But Gates was also enthusiastic about this new source of apparent revenue, telling his colleagues, "I want to scale-up and try to become rich."[91]

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[86] During the time period at issue in this investigation, UTC transactions internal to PJM were not permitted. In other words, every UTC transaction had to source or sink with an interface, such as MISO or NYISO.

[87] Chen Test. Vol. I Tr. 44:17 – 45:24, 90:10-12; Chen Submission at 14.

[88] Chen Test. Vol. I Tr. 45: 6-10, 14-15.

[89] Chen Test. Vol. I Tr. 45:18 – 46:8.

[90] Email from Kevin Gates to Richard Gates et al. (Dec. 8, 2009, 09:16:07 PM) (POW00008242).

[91] Email from Kevin Gates to Richard Gates et al. (Feb. 26, 2010, 08:20:52 AM) (POW00007907).

By the time he received the February 2010 statement, Chen had reviewed and analyzed "a couple years of history" regarding the application of MLSA to his UTC transactions, and believed that he "ha[d] a pretty good handle" on how the MLSA affected the return on certain UTC transactions.[92] What he learned was that the MLSA would be larger in "the colder winter, hot summer"[93] and that during such periods, "the transmission loss credit [would] cover all the [transaction] charges."[94] During periods of milder weather, by contrast, "you could lose money if you do paired trades."[95] As Chen testified, "in those shoulder month[s], the transmission loading or the demand tend to be lower. The transmission loss is lower. So you collected less money, and the surplus is lower."[96] In other words, based on his analysis, he expected that the MLSA would be much smaller in milder weather – too small to cover the transmission reservation fees, market charges, and ancillary service charges incurred in scheduling the transactions. Chen shared these conclusions with Kevin Gates in a series of emails exchanged in March and April of 2010.

2. Chen Adapts His Trading Strategy in Light of the MLSA (Spring 2010)

In February 2010, shortly after performing his analysis on the retroactive MLSA payments, Chen began changing his UTC trading strategy.[97] He also increased the volume of the UTC transactions he placed on behalf of HEEP Fund and Huntrise.[98]

Chen began to experiment with a variation of his old correlated pairs strategy, which involved looking for two pairs of nodes which resulted in an internal transaction with nodal prices moving in tandem. The difference between the new and old correlated pairs strategies (A to B / B to C) is that the old strategy sought to capture small but reliable gains from price movements (e.g., between A and C), whereas the new MLSA-oriented strategy was based on trading high volumes and sprang from his attempt to

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92 Chen Test. Vol. I Tr. 90:14 – 91:11, 93:15-18.

93 Chen Test. Vol. I Tr. 94:10-11.

94 Chen Test. Vol. I Tr. 94:11-12.

95 Chen Test. Vol. I Tr. 94:9-10. Chen's "paired trades" are discussed extensively below.

96 Chen Test. Vol. I Tr. 94:5-8.

97 Chen Submission at 14.

98 *Id.*

negate price spreads as nearly as possible (e.g., A ≈ C) to capture a small but reliable per MWh gain from MLSA, rather than from price spreads.[99]

Chen testified that, by selecting A and C nodes whose prices historically had moved in tandem between the Day-Ahead and Real-Time markets he sought to reduce what he called in his testimony "the spread risk" – i.e., the risk that the difference between each of the internal nodes would not move in synch. For example, Chen scheduled a large volume of UTC transactions at the node pairs Mt. Storm-to-MISO and MISO-to-Greenland Gap for an internal spread bet between Mt. Storm and Greenland Gap. Because the Mt. Storm (A) and Greenland Gap (C) nodes are geographically proximate and electrically similar, their LMPs typically moved in tandem, and this meant that the Day-Ahead and Real-Time LMP spread of the Mt. Storm-to-Greenland Gap transaction was typically very small. Because of this, Chen expected that the changes in the LMP spreads experienced by the two UTC transactions would reliably net to near-zero. By creating these paired transactions, Chen sought to avoid significant exposure to, and thus profit or loss from, price changes in the market. In other words, Chen's purpose was to minimize or eliminate his exposure to market fundamentals in order to ramp up trading volumes and profit from MLSA alone. What made all of this possible was that MLSA also allowed Chen to increase volume and profits without increasing risk.[100] And Chen found he could predict, with considerable success, the hours when the MLSA exceeded his transaction costs.

3. Gates and His Colleagues Understood Chen's New Trading Strategy and Partnered with Chen to Profit from It

Chen outlined this new trading strategy for the principals of Huntrise early in 2010. On March 5, Chen sent Gates the profit-and-loss (P&L) statement of his February 2010 UTC trading.[101] The report separated the returns for the UTC transactions, as offset by ancillary service charges and transmission reservation fees (Huntrise lost $382,853 during the month), from the MLSA that PJM subsequently distributed to Huntrise (a credit of $646,993). This report demonstrated that Chen's trades on behalf of Huntrise lost a significant amount of money from spreads, but that Huntrise nevertheless enjoyed a net "profit" of $264,141 after PJM allocated them a pro rata share of MLSA. The report similarly showed that, despite losing $113,093 on the underlying trades, HEEP Fund

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[99] This effectively is the strategy warned of by the PJM Power Producers Group in the *Black Oak* case. *See* PJM PPG Comments, Docket No. EL08-14-000, at 14 (filed Dec. 26, 2007).

[100] Chen markedly increased both the volumes of his trades and his total profits, even though his profits on a per MW basis sharply declined.

[101] Email from Alan Chen to Kevin Gates (Mar. 5, 2010, 11:28:46 AM) (POW00011676 - 683).

nonetheless realized a net gain of $62,869. In his cover email, Chen explained (referring to MLSA as "TLC" (short for "Transmission Loss Credits"):[102] "As you can see from the reports, without TLC, we would have lost money in February 2010 and it is not a small amount either."[103] Gates and the other principals of Huntrise/TFS thus were put on notice that their apparent profits from Chen's trading derived not from his fundamentals-based trading acumen – and not by arbitraging the Day-Ahead and Real-Time markets—but from his effort to collect MLSA.

Chen also told Gates that he should expect that their profits from targeting MLSA would increase in the future. "February 2010 [was] the first month I really started taking advantage of the TLC," he wrote, and then added that "we are still a long way to go to fully take advantage of the TLC."[104] He reported that, "I'm now using about 50% of the TLC advantage in March 2010," and proposed "gradually lower[ing] it for April 2010 and May 2010 and then move it back up (or even higher)" for the summer months because, as he explained, "TLC advantage tends to shrink a lot during shoulder months."[105] But Chen was still their agent, and he wanted to make sure they concurred with this MLSA-based strategy:

> I'd like to seek opinion about this from you guys about this strategy, basically three options: 1) trade very conservatively and treat TLC [as if it] doesn't exist; 2) trade at current level to take advantage of TLC, but don't be too aggressive since it is March and weather is mild; 3) trade aggressively and add more volume to fully take advantage of TLC.[106]

In response, Gates was surprised at the extent to which the volume of trading had increased: "Wow. Before looking at this data, I didn't realize you scaled up so much recently."[107] He asked whether the increase was "largely the result of the TLC."[108] Chen responded that it was:

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[102] Though they typically referred to MLSA as TLC, Respondents sometimes used the term "UTC" as another way to refer to their MLSA-collection strategy. *See, e.g.*, Email from Kevin Gates to Kevin Byrnes (Jul. 26, 2010, 05:01:02 PM) (POW00001846-47); Email from Chao Chen to Richard Gates (Jun. 25, 2010, 20:48:49) (POW00002438).

[103] Email from Alan Chen to Kevin Gates (Mar. 5, 2010, 11:28:46 AM) (POW00011676).

[104] *Id*. (noting that he had used "only 25%" of the "TLC advantage" in February 2010, up from 0% in January 2010).

[105] *Id*.

[106] *Id*.

[107] Email from Kevin Gates to Alan Chen (Mar. 5, 2010, 7:54 PM) (POW00016599).

[108] *Id*.

> Before and in January 2010, I didn't specifically target for TLC. Starting in February 2010, I kicked up a notch targeting for TLC. In March 2010, I added some more. Without TLC, I would not touch some of the trades and/or would not put in large volumes for some of the trades. *But with TLC as is, they are suddenly becoming risk-free (almost to the point) trades.* I'll take down a little bit starting tomorrow knowing that we are leaving a lot of money on the table.[109]

Gates directed Chen not to "'take down' tomorrow for my sake. I don't want to leave money on the table. But, I would like to talk with you."[110] Gates was concerned that "it seems that our exposure has ramped-up significantly recently,"[111] to which Chen responded as follows:

> The volumes have been increased pretty significantly, *but the risks associated with the trades are actually lower than before*. Most of the added volumes came from correlated pairs that produce a few cents or tens of cents up-side with almost no down-side risk. Without TLC, the transaction costs would absorb them and deem them unprofitable.[112]

Chen further explained that "[f]or the first 5 days" of March, the funds lost "around $180,000.00" in "estimated transaction costs" but nevertheless, "[w]ith TLC, we are probably making $45,000.00."[113]

Despite the profitability of Chen's new strategy, Chen recognized that his new strategy depended entirely on collecting MLSA, and he expressed concerns to Gates about their ability to hold onto the money should PJM discover their conduct:

> It is a good thing that we are making money, and I'm pretty sure about it if TLC refund continues as it is. The bad thing is it really concerns me if PJM ever reverts back to those days without TLC or the TLC calculation was/is incorrect and we have to pay back all or some of the TLC refunds, we are

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[109] Email from Alan Chen to Kevin Gates (Mar. 5, 2010, 9:37 PM) (POW00016599) (emphasis supplied). Because Chen lived in the Houston area and Gates resided in the Philadelphia area the difference in time zones sometimes creates apparent discrepancies in the time stamps associated with their email correspondence.

[110] Email from Kevin Gates to Alan Chen (Mar. 5, 2010, 09:40:46 PM) (POW00016599).

[111] Email from Kevin Gates to Alan Chen (Mar. 5, 2010, 8:33 PM) (POW00012124).

[112] Email from Alan Chen to Kevin Gates (Mar. 5, 2010, 8:52 PM) (POW00012123) (emphasis supplied).

[113] Email from Alan Chen to Kevin Gates (Mar. 5, 2010, 10:04:36 PM) (POW00012123).

> going to be in big trouble. I have not heard anything about this at all, but just the thought nags me a lot.[114]

Gates agreed, saying "[i]f you're really concerned, then I'm really, really concerned," and proposed that Chen "contact a law firm, the FERC, or PJM to try to get more insight into this issue."[115] Neither Chen nor Gates nor anyone else associated with their funds did so.[116]

Gates discussed these same concerns with the other Huntrise investors. One such investor, Chao Chen, testified that he shared the concern that "we are getting paid a lot of TLCs and it might not last forever" because "it was too big of an opportunity."[117] He believed that when PJM "realized that there was a loophole" – which he defined as "an anomaly, something that nature shouldn't allow" – "the concern was they would retroactively try to close the loophole."[118]

Thus, by early March 2010, Gates plainly understood that Chen was "actively altering his trading to profit from the TLC."[119] In a March 5, 2010 email, Gates informed Huntrise's other managers and investors "that $2.1 [million] of the $3.6 million that Alan made was in the form of the Transmission Loss Credits."[120] Gates suggested to his partners, "I'm game for closing down [Huntrise] soon, and opening up a new entity and scaling-up. Also, maybe, we could have an attorney, or someone, really dig into the TLCs on the UTC trade."[121] Despite Gates' acknowledgement that "we need to stay on top of this," he and his fellow investors elected not to have an energy law attorney – or

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[114] Email from Alan Chen to Kevin Gates (Mar. 5, 2010 at 11:28 AM) (POW00016981).

[115] Email from Kevin Gates to Alan Chen (Mar. 5, 2010 at 03:59:47 PM) (POW00016981).

[116] *See* K. Gates Test. II Tr. 228:18-22 ("Q: Did you talk to an attorney . . . to get some assessment from a lawyer as to whether there was some reasonable likelihood that FERC might change its mind about these payments? A: No.") and 232:21 – 233:5 (no recollection of discussing transmission loss credits with an attorney). Respondents' lack of consultation with counsel is confirmed by the absence of any privilege log in which the existence of such communications must be noted.

[117] Testimony of Chao Chen (Chao Chen Test.) Tr. 43:11-12, 50:9-10.

[118] Chao Chen Test. Tr. 99:20-21, 96:16.

[119] POW00008005; K. Gates Test. Vol. II Tr. 196:16 – 197:16.

[120] Email from Kevin Gates to Richard Gates et al. (Mar. 5, 2010, 05:34:51 PM) (POW00007936).

[121] *Id*.

for that matter, anyone – "really dig into the TLCs" as proposed,[122] despite the fact that, in Gates' words, "[t]he problem with the power markets is we didn't understand them."[123]

Instead of seeking legal advice or reaching out to FERC or PJM, Gates decided to "scale up". On March 19, 2010, Gates sent an email to tell his partners that the opportunity to make money from Chen's strategy was "too exciting and we need to have a lot of exposure this Summer."[124] For Gates, "[t]he big thing about scaling up was the opportunity of the transmission loss credits. There was a tremendous opportunity that existed then. It was a more attractive trade."[125] He attached to this email a seven-page document entitled, "Rampin' up with Alan Chen," which stated that Chen was "participating more heavily in the TLC trade which he describes as almost a risk-free way to make money."[126] The presentation advocated that the investors "scale up" their investment in this trading activity of Chen's notwithstanding Chen's reported worry that "it's just too easy for him to make money now."[127]

Gates was enthusiastic about getting even deeper into the trades. In Spring 2010, Gates and his partners formed a new fund called Powhatan Energy Fund, LLC (Powhatan), which became the new vehicle for the TFS/Huntrise partners' trading in PJM through Chen.[128] Gates negotiated an agreement with Chen to increase the multiple of HEEP Fund trades from four to twenty, although he had to overcome Chen's misgivings

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[122] *Id*. As of March 23, 2010, Gates remained concerned about the issue, and proposed meeting with Chen "at least one more time to discuss the TLC trade and learn more about PJM's views on it." Email from Kevin Gates to Alan Chen and Chao Chen (Mar. 23, 2010 12:04 PM) (POW00012103).

[123] K. Gates Test. Vol. II Tr. at 243:12-13; *see also*, R. Gates Test. Vol. I Tr. 71:18 – 73:11 (testifying that the wholesale energy markets were "exotic" markets about which they understood "very close to zero" when they began).

[124] Email from Kevin Gates to Richard Gates et al. (Mar. 19, 2010, 05:07:40 PM) (POW00008000).

[125] K. Gates Test. Vol. II Tr. 231:5-8.

[126] POW00008003.

[127] POW00008002.

[128] One explicit purpose of the Powhatan fund was to protect Gates and the other investors in case PJM sought to claw back MLSA. Gates explained that, if this occurred, Chen "could bankrupt his company so that he doesn't pay us. If so, we'd bankrupt our company and not pay PJM." Email from Kevin Gates to Richard Gates (Mar. 21, 2010 at 7:55 AM) (POW00007990).

about committing to such a large multiple.[129] The decision to ramp up reflected a high degree of comfort on at least Gates' part that he understood Chen's UTC trading strategies.[130] Chen began trading for Powhatan on May 28, 2010.

4. Chen Learns His Initial Scheme Is Not Foolproof

Chen experienced an unexpected major trading loss on May 30, 2010. Because of the five-fold increase in the volume of trades placed on behalf of the Powhatan investors relative to that of HEEP, Chen's overall trading volume for May 30, 2010 – his second day of trading for Powhatan[131] – was significantly larger than before. One leg of Chen's correlated pair UTC transactions – the leg between the MISO interface and the Greenland Gap node in PJM – experienced a congestion price spike that Chen had not expected. But the other leg of the correlated transaction – between the Mt. Storm node in PJM and the MISO interface – did not experience the same price spike. In conjunction with his heavy trading volume, this unexpected price differential meant that HEEP Fund and Powhatan lost almost $180,000 on the change in price spreads, plus more than $18,000 in costs to schedule the transactions.[132] Because those trades earned just under $22,000 in MLSA, this one set of transactions collectively lost more than $176,000 on that day.[133] Chen's volume-based correlated pairs strategy had failed.

Chen told Gates that his trades may have been to blame, stating that the large volume of his trades may have "exacerbated the day-ahead spreads and I suspect the trades we put on affected the day-ahead model runs so much that some of the spreads are looking abnormal to me."[134] Gates in turn apparently was worried that this strategy may

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[129] *See* Email from Alan Chen to Kevin Gates (Mar. 23, 2010, 12:27:24 PM) (POW00012111) (responding to Gates' proposal to increase the multiple traded to 20x, Chen replied, "[a]t this stage, going from 4x to 10x might be a better option . . . [a]nd I'd also be more comfortable with the lowered volume"), *see also* Chen Test. Vol. II Tr. 189:6 – 191:1 (describing reservations about the 20:1 ratio) *and see* Advisory Agreement between HEEP Fund and Powhatan (May 18, 2010) (POW00000067) (establishing 20:1 ratio).

[130] Gates had previously insisted that Powhatan would "definitely never really ramp up . . . without knowing the strategy intimately." Email from Kevin Gates to Alan Chen (Jun. 9, 2009, 04:08:10 PM) (POW00017242).

[131] *See* Chen Test. Vol. I Tr. 79:4-7.

[132] *See* Email from Alan Chen to Kevin Gates (May 30, 2010, 11:33:12 AM) (POW00004268-69) (noting that the spread between Mt. Storm and Greenland Gap, which averages $0.17 spiked above $50.00).

[133] Email from Alan Chen to Kevin Gates (May 30, 2010, 11:33:12) (POW00004268-69).

[134] *Id*.

not be quite as profitable as they had come to believe, and advised his partners that "[t]he big concern are Alan's comments about high volume. It seems the market isn't as scalable as Alan thought."[135] Chao Chen agreed, stating, "I'm disappointed that he told us capacity wasn't a problem but now he says it is. Seems a little reckless to me to find out this way."[136]

5. Chen Revises His Strategy and Increases His Trading Volume

Following the loss on May 30, 2010, Chen stopped trading for a few days to consider why his volume-based correlated pairs strategy had not worked as anticipated.[137] Of course, the enormous trading volumes associated with his volume-based strategy made it necessary to minimize his exposure to price movements to the maximum extent possible. As discussed above, he thought he had achieved that with the correlated pairs strategy – a strategy he had described to Gates as virtually "risk free" – but the events of May 30 proved him wrong.

Chen's solution was to "reduce the spread risk" all the way to zero by "shrink[ing] the two nodes into one."[138] As Chen subsequently explained to Gates, "[o]n 5/30 we lost a lot of money on the one pair of trades and I tried to find a better hedged paired [*sic*] of trades. That's when I thought of using fully hedged paired trades."[139]

Chen decided to alter his spring trading strategy from the correlated pair strategy (A-to-B/B-to-C), the failure of which caused the May 30 loss, to a matched pair strategy in which he scheduled offsetting volumes of UTC transactions between one interface and the same location in PJM (i.e., an A-to-B trade paired with a B-to-A trade).[140] Thus, any profit (or loss) from the UTC transaction scheduled at the A-to-B node pair would be exactly offset to zero by the equal loss (or profit) from the UTC transaction scheduled at the B-to-A node pair. This was as far from the Day-Ahead/Real-Time price arbitrage as one could go.

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[135] Email from Kevin Gates to Richard Gates et al. (May 30, 2010, 12:47 PM) (POW00005758).

[136] Email from Chao Chen to Kevin Gates (May 30, 2010, 05:20:37 PM) (POW00004268).

[137] Chen Test. Vol. I Tr. 79:10-11, 20-25.

[138] Chen Test. Vol. I Tr. 40:17-18.

[139] Email from Alan Chen to Kevin Gates (Aug. 24, 2010, 06:20:38 PM) (POW00004874).

[140] Overwhelmingly, MISO was the interface Chen selected, though a tiny fraction of Chen's A-to-B/B-to-A trades were made with the NYISO interface, rather than with MISO.

Gates and the other investors in Powhatan readily comprehended Chen's newest strategy and its implications. As Gates testified: "I remember [Chen] saying . . . very early on during Powhatan's trading, that he was very clearly trying to eliminate that [congestion spread], and he was going from A to B – B to A."[141]

This new, identical matched pair strategy eliminated the risk that any price spread could occasion either profits or losses as long as both legs of the matched pair cleared, because the two matched transactions' spread changes offset each other perfectly and washed one another out of the trade. Executing such round trips guaranteed that Chen would net zero on the spread and would necessarily lose money after paying transaction costs. This reflected a complete reversal from price arbitrage to pure volume-based trading that depended entirely on the subsequent receipt of loss credits. The only way the trades had any potential to profit was if the MLSA exceeded the transaction costs, as it would predictably do in the "colder winter, hot summer."[142] When Chen used these matched trade pairs and both cleared, the possibility of profit depended entirely on whether the amount of MLSA distributed afterwards exceeded the fixed charges associated with the transactions.[143]

The Powhatan principals readily grasped both the change in Chen's trading strategy and the reason for it. Gates testified that Chen's original UTC trading before those transactions received MLSA had been "specific to his ability to model congestion, his ability to model the day-ahead versus the real-time spread."[144] The new strategy, however, was more like "a monkey . . . throwing darts."[145] Gates clearly expressed the new purpose of the matched-pair strategy: Chen "was trying to *remove* the day-ahead/real-time spread."[146] Gates testified:

> Without a doubt at some point during the summer . . . I knew that that was one way that he was introducing risk into the portfolio, was trying to drive that term, the day-ahead versus real-time, to zero and isolate the bet to his ability to model the marginal loss credit and these other revenue streams, that that would exceed the fixed costs associated with fixed trade.[147]

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141 K. Gates Test. Vol. II Tr. 178:12-15.

142 Chen Test. Vol. II Tr. 94:10-11.

143 Chen Test. Vol. I Tr. 66:9-15.

144 K. Gates Test. Vol. II Tr. 172:25 – 173:2.

145 K. Gates Test. Vol. II Tr. 216:13 – 217:3.

146 K. Gates Test. Vol. II Tr. 309:20-21 (emphasis supplied).

147 K. Gates Test. Vol. II Tr. 172:3-9.

Gates acknowledged that, absent the MLSA, losing money on these trades "wasn't merely highly likely. It was guaranteed. You were going to absolutely lose money on that trade."[148] Gates understood that, by eliminating Day-Ahead/Real-Time price arbitrage (and thus the possibility of profit or loss from arbitrage), the only risk in Chen's UTC trades was "a new risk that the [MLSA] revenues would exceed the costs associated with the trade."[149] Gates believed that Chen "had some sort of model that I wasn't privy to where he was able to model the expected transmission loss credits."[150]

The volume-based UTC round trip strategy yielded immediate results. On June 7, 2010, Chen informed Gates that "we are losing quite a bit of money and for the whole day it is probably approaching -$60K. But we are still making more than $40K up to date (due to the updated TLC data of 6/2: making $63 instead of losing $56,742). I think optimistically we could have made more than $100K once the TLC data are published."[151] A few days later, on June 9, 2010, Gates informed his partners that

> Alan estimates that we're up $78,000 for the month of June so far. But, I've learned that Alan persistently provides low estimates (he has to assume a Transmission Loss Credit, until it's posted about a week after the fact), so I'm really guessing that MTD we are up over $100,000. . . . Not sure of the exact dollars, but rough-rough: I think that everyone should expect to have the ability to double their investment in Powhatan.[152]

By June 17, 2010, the new strategy was performing so well that, as Gates informed his partners, "Alan currently estimates that he's made as much money in Powhatan MTD as he lost at the end of May."[153]

On June 25, 2010, Gates met with Chen to discuss the round trip trading strategy.[154] At the meeting, Chen explained that one of the reasons for the magnitude of

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[148] K. Gates Test. Vol. II Tr. 175:2-4.

[149] K. Gates Test. Vol. II Tr. 169:24-25. "I understood his trades," Gates testified, "that if he moved electricity from point A to point B and point B back – not moved it, but he bet on those spreads, that the objective – with the objective of his ability to model the transmission loss credit and other revenues would exceed" the transaction costs. K. Gates Test. Vol. II Tr. 177:7-11.

[150] K. Gates Test. Vol. II Tr. 167:20-22.

[151] Email from Alan Chen to Kevin Gates (Jun. 7, 2010, 9:57 PM) (POW00003761).

[152] Email from Kevin Gates to Richard Gates, et al. (Jun. 9, 2010, 3:04:45 PM) (POW00004350). "MTD" is a common abbreviation for "month to date".

[153] Email from Kevin Gates to Richard Gates (Jun. 17, 2010 at 12:46 PM) (POW00004394).

the loss on May 30 was that his large trading volume magnified the impact of a relatively small price movement.[155] Questioned about the risks of the new, matched-pair trading strategy, he identified two risks: that one leg would not clear and thereby expose the trader to the spread risk of the other half of the matched pair, and that the MLSA payment would not cover the UTC transaction costs.[156] As to the former, he saw failure of one leg to clear as a risk that could not be absolutely eliminated when trading UTCs, and not as a positive opportunity.[157] Indeed, Gates came away from that meeting with the understanding that it could be "catastrophic" if one leg failed to clear.[158]

Within hours after this meeting, Gates, Chao Chen, and other Powhatan investors had begun speaking openly about their trades as a exploiting a "loophole," and exchanged emails about whether to meet with a different group of energy traders who specialized in UTC transactions. Having reviewed those traders' summary presentations, Chao Chen was "not that excited about it."[159] Chao Chen explained that "UTC is just a loophole that anyone who knows about it can exploit. There is very little skill. I wouldn't hire any of these guys to work for TFS, including Alan."[160] In response, Gates stated, "I agree that UTC is a loophole that probably a dummy can exploit. But, why rule these guys off? . . . . They should drive a truck through that loophole . . . . That's what I'd do."[161] Gates subsequently elaborated on this view:

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[154] *See* Chen Test. Vol. I Tr. 98:17-11; Chen Test. Vol. II Tr. 155:12-21. Chao Chen described "the impetus" of that meeting being "that we are ramping up with him [Alan], that we are thinking about putting more money with him."

[155] K. Gates Test. Vol. II Tr. 61:7-18.

[156] K. Gates Test. Vol. I Tr. 12:17 – 14:9, 74:12-19, 92:12 – 93:13.

[157] As discussed in Section IV.B.1.e., below, Chen's view of this potential risk was completely inconsistent with the risky, counterflow-reliant "home run" strategy attributed to him by Respondents' consultants.

[158] Powhatan Dec. 17, 2010 Supplemental Response to Data Request #10.

[159] Email from Chao Chen to Richard Gates (Jun. 25, 2010, 20:48:49) (POW00002438).

[160] Email from Chao Chen to Richard Gates (Jun. 25, 2010, 20:48:49) (POW00002438). Chao Chen later testified that Chen's UTC trading reflected a "[p]oorly designed market," noting that it was "allowed under the rules, but it is not . . . a properly designed set of rules." Chao Chen Test. Tr. 96:19, 95:25 – 96:2 and 95:11-14 ("The UTC trading, the UTC market in general . . . appears to not be a well designed market because it seems that it requires very little skill to make money.")

[161] Email from Kevin Gates to Chao Chen et al. (Jun. 25, 2010, 09:09:23 PM) (POW00002438).

> I believe, from what I know about the structure, that a monkey could have made trades in the market and randomly picked nodes to move electricity to and nodes to move electricity from and taken the bet that the marginal loss credit plus the other revenues would have exceeded it during the summer months. . . . . Alan modeled transmission loss credits and figured that they are they were higher during high/low periods and during those high/low periods, I believe a monkey or throwing darts at a dart board would have been net profitable for this type of trading during this time period.[162]

The effortless profits raised questions for both Chao Chen and Gates. Chao Chen later recalled that Gates "expressed concern about the wisdom of the PJM for allowing the trade."[163] Gates himself testified that

> I think [Alan Chen] realized from a policy standpoint the transmission loss credit was a bad policy. If he was the one designing the marketplace and he had the responsibility to the marketplace – to create it and his ideal marketplace, I don't think he would have instituted this TLC. I think he would say rebates or transmission loss credits are rebates and they're intended to encourage certain behavior, and these rebates are encouraging the wrong behavior.[164]

Despite Gates' or Chen's beliefs about whether MLSA was "encouraging the wrong behavior," or whether their trading should have been allowed, neither of them – nor any of the other highly sophisticated investors at Powhatan – sought legal advice about whether this sort of trading was unlawful. Gates and the other Powhatan investors had entered the highly regulated energy market in which Congress had recently given the Commission powerful new weapons to combat market manipulation in the wake of the Enron scandals,[165] and yet they apparently undertook little or no effort to educate themselves about the legal and regulatory environment.

Gates may not have attempted to learn the legal and regulatory context for Chen's trading, but he certainly understood that Chen's UTC round trips were the source of the large sums that Powhatan received from PJM. In mid-July, Gates told a colleague at TFS

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[162] K. Gates Test. Vol. II Tr. 216:13 – 217:3.

[163] Chao Chen Test. Tr. 75:5-6.

[164] K. Gates Test. Vol. II Tr. 215:17-25.

[165] Richard Gates at least was aware of the Enron scandals, because that is how he came to learn of the existence of the wholesale energy markets. *See* R. Gates Test. Vol. I Tr. 72:22 – 73:2.

to "please keep it strictly confidential when talking with others that we're engaging the 'UTC' trade. Really just knowing about this inefficiency is our only edge."[166]

Chen's pure volume-based strategy succeeded in capturing enormous amounts of loss credits. The entities for which he traded received so much money from PJM that Chen decided he wanted to capture an even larger share for himself. Because his trades for HEEP were contractually tied to those of Powhatan, Chen's best chance to increase his share of MLSA was to trade for a company not linked to Powhatan. That is what he did: on July 17, 2010, Chen established a separate entity under the name CU Fund.[167] This fund, unlike HEEP, was untethered to the trades Chen placed on behalf of Powhatan, which enabled him to place larger volume trades for his own account.[168] Chen scheduled some of the same round trip trades on behalf of CU Fund that he scheduled for HEEP and Powhatan, and entered as much as 10,200 MWh of volume per hour for CU Fund.[169] Chen successfully scheduled 100% of the volume of the more than 2.6 million MWh of UTC transactions that he bid on behalf of CU Fund.[170] Chen did not inform Gates or anyone associated with Powhatan of his trading on behalf of CU Fund until after this investigation had commenced.[171]

6. Chen's Volume Trading Scheme Unravels

Despite Respondents' desire to keep their trading conduct secret, it eventually attracted attention. Because OASIS reservations are public, other traders could see that Chen was reserving huge volumes of transmission, and these other traders developed theories about what Chen was doing. Several traders from other firms deduced that Chen must be doing volume trades to collect MLSA. A very few tried to copy the technique; others sought to put a stop to it.

In late July 2010, PJM was contacted by two market participants complaining about unusual activity that caused available transmission capacity to disappear, thus

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[166] Email from Kevin Gates to Kevin Byrnes (Jul. 26, 2010, 05:01:02 PM) (POW00001849).

[167] Chen Test. Vol. I Tr. 41:18-22; Chen Dec. 13, 2010 Response to Data Request #15a.

[168] Chen Test. Vol. II Tr. 139:9-12.

[169] Chen Test. Vol. II Tr. 139:13-19.

[170] Chen Test. Vol. II Tr. 13:7-10.

[171] K. Gates Test. Vol. I Tr. 37:5-10. Gates testified that Chen's failure to disclose the existence of CU Fund "created a conflict of interest" that caused him to question Chen's integrity. K. Gates Test. Vol. II Tr. 210:24 – 211:6.

preventing them from executing their own transactions.[172] PJM began investigating and requested that its IMM "communicate immediately with the relevant market participants regarding their unusual market activity."[173]

On August 2, 2010, Dr. Joe Bowring of Monitoring Analytics, the Independent Market Monitor (IMM) for PJM, telephoned Chen and expressed concern about Chen's large volume UTC transactions. As a result of that call, Chen agreed to cease executing such trades.[174] Chen promptly informed Gates.[175] Gates immediately grasped the significance of this discussion, and informed his partners that this development "doesn't bode well for the longevity of this degree of profitability. So, please make sure to enjoy it now, while you can."[176]

On August 5, 2010, the IMM made a presentation to the PJM Markets and Reliability Committee, in which it contended that improper UTC trading had cost PJM a total of $17 million in July 2010 – $8 million of which was associated with what the IMM referred to as "equal and opposite" transactions, i.e., UTC round trip trades such as Chen's.[177] That same day, Chen informed Gates that their trading would be a topic of discussion at a meeting of the PJM Members Committee (MC): "From what I'm hearing now we are going to see drastic changes to UTC trades very shortly. Also, TLC and UTC issues (uneconomic large volume UTC trades taking advantage of TLC) and resolutions are going to be on the 8/12 MC meeting."[178] Gates responded with questions for Chen:

> If PJM files the amendment next week, when do you think that the change will take place? And, I'm correct in believing that you'll still be able to profitably trade, but won't be able to keep the TLC? (*You just won't be able to make money by moving electricity around in a circle*.) If so, it's

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[172] Aug. 16, 2010 Confidential Referral of Potential Violations of FERC Market Rule (PJM Referral) at 1.

[173] *Id*. at 3.

[174] *See* Email from Alan Chen to Joe Bowring (Aug. 2, 2010, 4:20 PM) (HF-00284).

[175] Email from Alan Chen to Kevin Gates (Aug. 2, 2010, 1:04 PM) (POW00004041).

[176] Email from Kevin Gates to Richard Gates, et al. (Aug. 2, 2010, 01:12:36 PM) (POW00004041).

[177] *See* Monitoring Analytics, LLC, Virtual Transactions and Marginal Loss Surplus Allocations at 5-9 (Aug. 5, 2010).

[178] Email from Alan Chen to Kevin Gates (Aug. 5, 2010, 2:35 PM) (POW00004686).

> like how life was back in 2008 before they started reimbursing us for TLC?[179]

At the PJM Membership Committee Meeting on August 12, 2010, the IMM proposed a revision to the PJM Operating Agreement Schedule 1 § 5.5 (Sheet No. 399C) that would resolve the explosion of volume trading by preventing non-firm transmission customers from receiving an MLSA distribution in excess of the amount they paid for their non-firm transmission service.[180] The IMM explained that the "proposal is intended to provide a short term solution to the market manipulation issue that has arisen as a result of the fact that non-firm transmission customers may receive an allocation of the marginal losses surplus which exceeds the cost of transmission service and thus exceeds the contribution of such customers to the fixed costs of the transmission grid."[181] In short, by mechanically eliminating their profitability, the IMM's proposal would have extinguished any financial incentive to engage in manipulative volume-based trading schemes.

One of the observers at that meeting was Robert Steele, an energy trader who had spent the summer in discussions with Gates about possibly bringing his team of UTC traders to work for Powhatan or TFS. After the meeting, Gates asked Steele what he thought of the IMM's proposal and the volume-based schemes that had been discovered and Steele – evidently unaware that Gates' company was one of those implicated in the scheme – candidly summarized his observations in an email to Gates:

> In the PJM committee proceedings last week, the membership voted in favor of PJM's proposal to eliminate the "gaming" practices going on in the UTC market. . . . . This action will close the loop-hole that allowed the few participants in question to "game" the no-risk arb between the cost of non-firm transmission ($0.67) and the reimbursement for marginal losses on certain trades (~$1.80). The other hidden benefit to this action is that "copy-cat" trading will be eliminated. Since the purchase of transmission is of public record, some market participants would monitor the key traders and attempt to mimic their trading strategies. With the elimination of the transmission leg of the UTC transaction, this transparency will be gone.

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[179] Email from Kevin Gates to Alan Chen (Aug. 12, 2010, 4:18 PM) (POW00004685) (emphasis supplied).

[180] *See* Monitoring Analytics, LLC, Impacts of Proposed Solutions to Manipulation Arising from the Allocation of Marginal Loss Surplus at 3 (Aug. 12, 2010) (August 12, 2010 IMM Presentation). Available at http://www.monitoringanalytics.com/reports/Presentations/2010/IMM_MC_Loss_Surplus_Allocation_20100812.pdf (visited Jul. 8, 2014).

[181] August 12, 2010 IMM Presentation at 2.

> All-in-all, I feel this rule change should be beneficial for us top-tier traders in the UTC market.
>
> . . . How did this all get started? The following outline is my understanding, not necessarily absolute truth. One market participant (perhaps Mr. Chen) figured out the "free arb" via the transmission loophole. Most UTC participants (myself and Connectiv included) perceived this as rank manipulation of the intended market function and had enough sense not to participate in this activity…. don't kill the goose that layed the golden egg. Based on the transparency that exists via the purchase of transmission, two other UTC traders figured out the gaming trade and couldn't resist from hitting it hard. This got the attention of PJM and the market monitor and they started to investigate, finally realizing the magnitude of what was going on ($19MM out of their pockets to these few "rogue" traders).[182]

PJM ultimately decided on a different approach to mechanically block the volume-based trading scheme. By ending the obligation to reserve paid-for transmission for UTCs, PJM's proposal also eliminated the volume-based trading scheme's profitability, and thus – like the IMM's proposal – did away with the remaining financial incentives to trade in this manner.

PJM filed its proposed tariff revisions on August 18, 2010.[183] Gates forwarded a copy to his colleagues, describing it as "a filing that PJM recently did with the FERC regarding changing the rules *to close the loophole that Alan was exploiting*."[184] The Commission approved the proposed tariff change on September 17, 2010, thus ending Respondents' manipulative scheme.[185] In just three months of "moving electricity around in a circle," Chen had been able to enrich himself, Gates, and the other Powhatan investors by many millions of dollars. Chen's round trip trades alone captured approximately $10.1 million in MLSA – $7,975,403 for Powhatan, $398,770 for HEEP, and another $1,784,145 for CU Fund – money that, in the absence of Chen's

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[182] Email from Bob Steele to Kevin Gates (Aug. 20, 2010, 9:25 AM) (POW00001866) (emphasis supplied).

[183] *PJM Interconnection, L.L.C.*, Submission of Schedule 1 of the Amended and Restated Operating Agreement, Docket No. ER10-2280-000 (filed Aug. 18, 2010).

[184] Email from Kevin Gates to Larry Eiben, et al. (Aug. 19, 2010, 06:41:54 PM) (POW00006665) (emphasis supplied). Despite this and other evidence, Chen now claims that "[t]his case . . . is not about . . . 'exploiting a loophole.'" Chen 1b.19 Response at 5.

[185] Order Accepting Tariff Revisions, *PJM Interconnection, L.L.C.*, 132 FERC ¶ 61,244 (2010).

manipulation, would have been distributed to market participants engaged in bona fide transactions.

C. Referral and Investigation

1. Referral

After being informed in late July 2010 of the unusually large non-firm point-to-point transmission reservations occurring that summer, PJM examined the July transmission reservations by each market participant and determined that 42 of 110 market participants reserved more than the average amount of MWhs of transmission.[186] On further review of the trading activity of those 42 market participants, PJM identified seven entities, including HEEP, CU, and Powhatan, that had purchased "a large MW quantity of transmission service" and that these participants had "submitted large quantities of Up-To-Congestion bids tied to the transmission service reservations beginning June 1[, 2010]" in the Day-Ahead Market.[187] Following its review of the summer's UTC transactions, PJM advised staff that the average hourly transmission reservation request from all companies was 94 MW for every hour in each of the 31 days in July 2010, and 203,302 MWh on average in that month per company. But Chen's requests were not average. Far from it: Chen requested almost *9 million* MWhs, that is, 44 times the size of the average monthly and 6 times the average hourly requested volume.[188]

One of the two forms of UTC bids that particularly troubled PJM "involved Up-To Congestion transactions with sources and sinks at points which were not the same, but ones where transactions were submitted in both directions between the same two points."[189] PJM concluded that traders structured these UTC trades "solely to inflate transaction volumes in order to receive an improper allocation of marginal loss surplus allocation revenue."[190] The IMM agreed with that assessment.[191]

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186 *See* PJM's Jan. 11, 2011 Response to Office of Enforcement's Second Data Request to PJM, Response Nos. 1-4, 6.

187 PJM Referral at 1.

188 PJM's Jan. 11, 2011 Response to Office of Enforcement's Second Data Request to PJM, Response No. 6.

189 PJM's Jan. 11, 2011 Response to Office of Enforcement's Second Data Request to PJM, Response No. 6.

190 PJM Referral at 4.

191 "The only rationale for [a UTC transaction that results in "net zero settlement"] is that the loss surplus allocation is greater than the cost of transmission." Monitoring Analytics, "IMM Marginal Allocation Methodology Recommendation" at 9 (Presentation to PJM Transactions Issue Task Force) (Oct. 26, 2010). The IMM pointed out that at the

In support of its determination that the high-volume trades it saw in the period of June and July 2010 had been "inflate[d] ... in order to receive an improper allocation of marginal loss surplus allocation," PJM pointed out that UTC transactions first became eligible for MLSA by order of the Commission issued September 17, 2009 and affirmed in its order of April 15, 2010, shortly before the trades on which the referral focused.[192] Accordingly, PJM inferred that these trades "were undertaken with the intent of manipulating PJM market rules."[193]

2. Investigation

On receiving these referrals, the Office of Enforcement launched a non-public, preliminary investigation into these matters, including an inquiry into Respondents' trading. Shortly thereafter, on August 25, 2010, the Commission issued an order making the investigation formal.[194] Over the course of its investigation, Enforcement staff sought, received, and analyzed extensive transactional, settlement and financial data, in addition to reviewing documentary evidence and taking testimony from several witnesses.

During the investigation, Respondents provided several written submissions to Enforcement staff, presenting legal and factual arguments that their conduct had not been manipulative; they also submitted affidavits from a number of consultants.[195] In their

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time of these transactions, the average MLSA was ≈$1.32/MWh (ranging from ≈$1.85 for "on-peak" to ≈$0.67 "off-peak") compared to the cost of non-firm transmission at $0.67/MWh.

[192] PJM Referral at 4, *citing, Black Oak Energy, L.L.C., et al. v. PJM Interconnection, L.L.C.*, 126 FERC ¶ 61,164 (2009) and *Black Oak Energy, L.L.C., et al. v. PJM Interconnection, L.L.C.*, 131 FERC ¶ 61,024 (2010).

[193] *Id*.

[194] *PJM Up-To Congestion Transactions*, 132 FERC ¶ 61,169 (2010).

[195] *See* "Written Submission to Commission Investigation Staff on Behalf of Powhatan Energy Fund LLC" (submitted Oct. 21, 2011) (Powhatan Submission) and "Written Submission to Commission Investigation Staff on Behalf of Dr. Houlian Chen," (submitted Dec. 13, 2010) (Chen Submission). The Powhatan Submission was supported by affidavits from Richard G. Wallace, a partner at the law firm Foley & Lardner, and Richard D. Tabors, a Vice President at Charles River Associates. The Chen Submission was supported by the affidavit of S. Craig Pirrong, a professor at the University of Houston. Respondents also provided supplemental submissions. *See*, "Supplemental Submission on Behalf of Dr. Alan Chen" (Mar. 16, 2012) (Chen Supplemental Submission) and Letter from William M. McSwain, attorney for Kevin Gates and Powhatan, to Steven C. Tabackman, Enforcement staff (Aug. 24, 2012) (Powhatan Supplemental Submission).

submissions, Respondents did not dispute that they had undertaken the transactions at the heart of this investigation. Rather, Respondents essentially contended that those transactions had been executed for a non-manipulative purpose and that, in any event, volume-based trading for the purpose of collecting MLSA would not have violated the Commission's Anti-Manipulation Rule.

After giving careful consideration to Respondents' submissions, Enforcement staff preliminarily concluded that certain of the UTC transactions executed by or on behalf of Respondents constituted market manipulation in violation of Part 1c of the Commission's Regulations. On August 9, 2013, Enforcement staff issued non-public letters to Respondents explaining the factual and legal bases for these preliminary findings.[196] Chen provided a substantive response.[197] Powhatan declined the opportunity to provide a substantive response and instead submitted a terse, one-paragraph letter asserting that the "preliminary findings make no sense."[198]

On August 5, 2014, the Office of the Secretary issued a Notice of Alleged Violations (NAV), identifying Respondents and summarizing the allegations against them. After settlement discussions proved unavailing, staff on August 7 and 15, 2014 provided notice, pursuant to the Commission's regulations,[199] of its intention to recommend that the Commission initiate a public proceeding against Respondents. Respondents responded to these notices on September 24, 2014.[200] Staff has carefully

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[196] *See* Letter from S. Tabackman, Enforcement staff, to J. Estes, III, counsel for Chen (Aug. 9, 2013) (Chen Findings Letter) and Letter from S. Tabackman to W. McSwain, counsel for Powhatan Respondents (Aug. 9, 2013) (Powhatan Findings Letter). Due to a minor technical issue, a corrected version of these letters was sent out later that afternoon.

[197] *See* Letter from J. Estes, III, counsel for Chen to S. Tabackman, Enforcement staff (Oct. 9, 2013) (Chen Response).

[198] *See* Letter from W. McSwain, counsel for Powhatan, to S. Tabackman, Enforcement staff (Oct. 8, 2013) (Powhatan Response). This letter followed a 25-day extension of time to reply requested by Powhatan. *See* Email from W. McSwain to S. Tabackman (Aug. 22, 2013, 1:13PM); Email from W. McSwain to S. Tabackman (Aug. 30, 12:26 PM).

[199] 18 C.F.R. § 1b.19 (2013).

[200] On September 24, 2014, Chen provided an additional substantive response (Chen 1b.19 Response) to which he also attached his prior submissions. Also on that date, Powhatan provided a non-substantive 2-page cover letter (Powhatan 1b.19 Response), to which it attached its prior submissions along with the prepared statements of 9 paid consultants.

considered the Respondents' 1b.19 Responses and now submits this report recommending the issuance of an Order to Show Cause and Notice of Proposed Penalty.

IV. Legal Analysis & Conclusions

As discussed below, Enforcement staff finds that Respondents manipulated the nation's largest RTO by entering into enormous volumes of transactions, lacking any legitimate business purpose, with the effect and intent of "moving electricity in a circle" in order to fraudulently collect transmission loss credits. These deceptive and manipulative transactions resulted in the improper allocation of millions of dollars. In so doing, Respondents intended to affect, and recklessly did affect, matters within the Commission's jurisdiction.

A. Elements of a Manipulation Claim

In 2005, Congress amended the Federal Power Act (FPA) in relevant part by adding section 222, which states:

> It shall be unlawful for any entity . . . directly or indirectly, to use or employ, in connection with the purchase or sale of electric energy . . . subject to the jurisdiction of the Commission, any manipulative or deceptive device or contrivance . . . in contravention of such rules and regulations as the Commission may prescribe as necessary or appropriate in the public interest or for the protection of electric ratepayers.[201]

Pursuant to this statutory mandate, the Commission promulgated the Anti-Manipulation Rule:

> It shall be unlawful for any entity, directly or indirectly, 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 . . . to use or employ any device, scheme or artifice to defraud . . . or . . . to engage in any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity.[202]

It is unlawful to violate section 222(a) of the FPA, or the Anti-Manipulation Rule, and under section 316A of the FPA violators "shall be subject to a civil penalty of not more than $1,000,000 for each day that such violation continues."[203]

The elements of market manipulation are (1) using a fraudulent device, scheme or artifice, or making a material misrepresentation, or engaging in any act, practice, or

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[201] 16 U.S.C. § 824v(a) (2012).

[202] 18 C.F.R. § 1c.2 (2014) (Anti-Manipulation Rule).

[203] FPA section 316A, 16 U.S.C. § 825*o*-1.

course of business that operates or would operate as a fraud or deceit upon any entity; (2) with the requisite scienter; and (3) in connection with the purchase or sale of electric energy or the transmission of electric energy subject to the jurisdiction of the Commission.[204] Each of these elements is required for an entity's conduct to violate the law.

As discussed in detail below, each of the elements of market manipulation are present here. Consequently, Staff concludes that Respondents violated the Anti-Manipulation Rule by devising and executing the round trip (A-to-B/B-to-A) UTC trading strategy described above. Their round trip UTC trades created the false appearance of arbitraging price differentials in order to deceptively collect MLSA. The evidence shows that Chen, acting on his own behalf and on behalf of (and with the knowledge and agreement of) Powhatan, arranged these trades with the intention and purpose of washing out the spread component of the UTC transaction and profiting instead on MLSA. It is fair to infer from the factual record that Respondents knew that this round trip UTC trading strategy was antithetical to legitimate price arbitrage that promotes price convergence; they knew that the Commission and PJM would have considered the strategy inappropriate or manipulative; and that they intentionally executed their scheme despite knowing that their round trip UTC trades had no legitimate purpose and could impair, obstruct, or defeat a well-functioning market.[205]

B. Scheme, Device, or Artifice: "to make money by moving electricity around in a circle"[206]

The first element of an Anti-Manipulation offense is using a fraudulent device, scheme or artifice, or making a material misrepresentation, or engaging in any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity. Fraud is a question of fact that must be determined based on the particular circumstances of each case.[207] The Commission "defines fraud generally, that is, to include any action, transaction, or conspiracy for the purpose of impairing, obstructing or defeating a well-functioning market."[208] As discussed below, the evidence demonstrates that the UTC trading strategy Chen implemented on his own behalf and on behalf of Powhatan operated as a fraud or deceit upon PJM. Chen created a trading strategy that

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[204] *Prohibition of Energy Market Manipulation*, Order No. 670, FERC Stats. & Regs. ¶ 31,202, at P 49 (Order No. 670), *order denying reh'g*, 114 FERC ¶ 61,300 (2006).

[205] *See generally*, Section III.B.5., above (quoting emails and testimony from Respondents).

[206] Email from Kevin Gates to Alan Chen (Aug. 12, 2010, 4:18 PM) (POW00004685).

[207] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 60.

[208] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 50.

gave the false appearance that he was accepting the spread risk inherent in and essential to a UTC trade, when in fact the strategy was designed to negate that risk. As such, the trades were simply designed to collect a reward (the MLSA distribution) that had no relation to the success or failure of the trades themselves. That Chen believed he had succeeded in negating that risk is reflected in the dramatic increase in volumes of his UTC trading (discussed below). Chen's transactions deceived PJM into awarding Respondents marginal loss surplus allocations that were intended to be distributed to market participants with bona fide transmission reservations.

The round-trip UTC trades constituted a manipulative scheme, device, or artifice. First, they have all of the characteristics that the Commission has recently identified as hallmarks or indicia of manipulative trading. Second, the round-trip trades are closely analogous to – indeed, are simply variations of – specific trading practices that the Commission has previously identified and proscribed as manipulation in the past, including congestion-related schemes executed by Enron and others and wash trading. Finally, Respondents' explanations for, and defenses of, their conduct are unpersuasive.

1. Indicia of Manipulation Present in Chen's Trading

Chen's UTC transactions bear all the hallmarks of manipulation as clarified by recent Commission precedent. In the order assessing penalties against Barclays Bank PLC and certain of its traders for violating the Anti-Manipulation Rule, the Commission stated that certain facts could be indicative of a scheme to manipulate.[209] These indicia include, among others, (1) trading behavior inconsistent with supply and demand; (2) a marked difference in the trader's non-manipulative trading behavior versus the trading patterns of the manipulative scheme; (3) speaking documents that indicate the trader's intent; (4) whether the trades are uneconomic; and (5) failure to give plausible or credible explanations for the uneconomic nature of the trades.[210]

Although all of these indicia need not be present to find market manipulation, they are all present here.

a. Trading Inconsistent with Supply and Demand: *"I believe a monkey . . . would have been net profitable for this type of trading . . ."*[211]

First, the round trip UTC trades did not have the legitimate purpose to arbitrage changes in price differences between the Day-Ahead and Real-Time markets. The round trip UTC trades had no purpose at all other than to create a claim for MLSA. The trades were executed "not in an attempt to profit from the relationship between the market

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209 *See generally Barclays Bank PLC, et al.*, 144 FERC ¶ 61,041 (2013) (*Barclays*).

210 *Barclays*, 144 FERC ¶ 61,041 at P 32.

211 K. Gates Test. Vol. II Tr. 216:13 – 217:3.

fundamentals of supply and demand"[212] – *i.e.*, from the anticipated change in prices between the Day-Ahead and Real-Time markets – but rather to secure claims on MLSA and make a reliable profit by reducing price differentials to zero. Indeed, it was literally impossible to profit from the relationship between the market fundamentals of supply and demand, because the round-trip UTC trades were designed for the express purpose of eliminating their exposure to such forces.[213] Moreover, so long as the clearing price remained below the bid cap – as Chen correctly expected it to do – the price was otherwise irrelevant, because the amount paid for prevailing flows were perfectly offset when paired with counterflows, and the gains from divergence between the Day-Ahead and Real-Time prices on one leg of the transaction therefore were exactly offset by the losses from the other leg. In other words, Chen's trading was undisciplined by the competitive forces of the market.[214] This sort of trading would not occur in the absence of some ulterior purpose – as was present here.

b. Marked Difference between Manipulative and Non-Manipulative Trades: *"Without TLC, I would not touch some of the trades, but with TLC as it is, they are suddenly becoming risk-free . . ."*[215]

Chen was not a novice to UTC trading. In fact, Chen had traded successfully in PJM's UTC market for years before devising and implementing his sham UTC trading strategy. His prior trading was marked by careful analysis of market fundamentals and historical prices; his trades involved modest volumes and displayed significant risk aversion. Whereas 99% of Chen's UTC trades in the 2008 – 2009 period were at or below 100 MW, fewer than 1% of his round trip UTC trades for CU Fund and Powhatan in the summer of 2010 were below 100 MW. In fact, more than 90% of Chen's round trip UTC trades for those funds were at least *200 MW*.[216]

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[212] *Barclays*, 144 FERC ¶ 61,041 at P 2.

[213] *See, e.g.*, K. Gates Test. Vol. II Tr. 175:2-4 ("You were going to absolutely lose money on that trade"); Email from Alan Chen to Kevin Gates (Apr. 7, 2010, 12:58 PM) (POW00016642) ("if I didn't have those extra trades in just for TLC, I'd have made some money. For every single TLC trade, we would lose money on PnL [profit and loss] and make money on TLC").

[214] *See Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218, at P 42 (2003).

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

[216] Volumes for HEEP Fund were constrained by the 20:1 multiplier in the Advisory Agreement and therefore are less indicative of Chen's intended volumes than CU Fund and Powhatan. Nonetheless, and despite the multiplier, half of Chen's manipulative round trip trades for HEEP were in volumes of at least 100 MW.

Respondents contend that "Chen's original up-to congestion strategy is irrelevant because PJM changed the rules in September 2009."[217] While PJM did change the rules for MLSA eligibility, it did not change the fundamental nature of UTC trading, which was to hedge physical transmission costs or to arbitrage price differences between the Day-Ahead and Real-Time markets. In sharp contrast to his legitimate UTC arbitrage transactions (which he continued after September 2009), Chen's round-trip UTC trades turned the UTC product on its head by negating, rather than seeking, price spreads between those two markets.

The evidence shows that Chen executed round trip UTC trades only for the purpose of capturing MLSA. He never executed such trades in the absence of MLSA, and would not have done so.[218] "Without TLC, I would not touch some of the trades and/or would not put in large volumes for some of the trades. But with TLC as is, they are suddenly becoming risk-free (almost to the point) trades."[219] As he later explained, "before 6/1[/2010], we didn't have any fully hedged paired trades. We did have paired trades on almost from the beginning (not intended for TLC, but for the spreads since we didn't even have TLC at the time.)"[220]

Gates was aware and understood that they were doing something fundamentally different in the summer of 2010 than previously. In June 2010, Gates and Chen met to discuss UTC trading in detail. Powhatan explained that,

> [d]uring this meeting, Kevin Gates recalls Alan Chen mentioning that he was generally doing two types of trades: (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.[221]

In August, as PJM moved to change the rules to make Chen's scheme impossible, Gates ruefully noted the difference between "be[ing] able to make money by moving

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[217] Chen Response to Preliminary Findings at 7.

[218] *See* Chen Test. Vol. I Tr. 50:18-24 ("Q: Prior to learning about the transmission loss credit, did you engage in paired trading . . .? A: No. Q: Was it the transmission loss credit that caused you to begin to get involved in paired trading? A: I think that's a fair assessment, yes.").

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

[220] Email from Alan Chen to Kevin Gates (Aug. 24, 2010, 06:20:38 PM) (POW00004722).

[221] Powhatan Dec. 17, 2010 Supplemental Response to Data Request #10.

electricity around in a circle" and "how life was back in 2008 before they started reimbursing us for TLC."[222]

c. Evidence of Intent: *"Without a doubt . . . I knew that . . . [Chen] was trying to drive that term, the day-ahead versus real-time, to zero and isolate the bet to his ability to model the marginal loss credit . . ."*[223]

Respondents' intent is not reasonably in dispute. The evidence demonstrates that Chen intended to execute UTC transaction pairs whose spread risk had been reduced to zero and which would clear virtually without fail.[224] The evidence further demonstrates that Gates understood and approved this purpose.[225] Indeed, Gates would never have authorized Chen to ramp up volumes as dramatically as he did unless he understood Chen's trading strategy "intimately".[226] Respondents' state of mind has been discussed throughout this report and is discussed further below, particularly in Section V.C.

d. Uneconomic Trades: *"You were absolutely going to lose money on that trade."*[227]

There is no question that the sham UTC trades were uneconomic on their own merits, because the essence of the UTC trade – the spread component – was washed out. UTC trade pairs flowing A-to-B and B-to-A in the same hours and volumes will never yield a profit on the congestion spread and will always incur transaction costs. So the only way the trades could generate a profit was by collecting more in MLSA than they would have to pay in transaction costs. Respondents understood this. As early as April 2010, Chen explained that, "if I didn't have those extra trades in just for TLC, I'd have made some money. For every single TLC trade, we would lose money on PnL [profit and loss] and make money on TLC so it is just shifted. If you want to talk, please let me know."[228] Gates responded, "I'm sorry. I get it now. No need to talk later."[229] In fact,

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[222] Email from Kevin Gates to Alan Chen (Aug. 12, 2010, 4:18 PM) (POW00004685).

[223] K. Gates Test. Vol. II Tr. 127:3-9.

[224] *See, e.g.*, Chen Test. Vol. I Tr. 40:17-18, Powhatan December 17, 2010 Supplemental Response to Data Request #10 *and see*, *infra*, nn.291-292 and accompanying text.

[225] *See, e.g.*, K. Gates Test. Vol. II Tr. 178:12-15.

[226] Email from Kevin Gates to Alan Chen (Jun. 9, 2009, 04:08:10 PM) (POW00017242).

[227] K. Gates Test. Vol. II Tr. 175:2-4.

[228] Email from Alan Chen to Kevin Gates (Apr. 7, 2010, 12:58 PM) (POW00016642).

after PJM discovered the scheme, Chen recognized that PJM's taking action against "*uneconomic* large volume UTC trades taking advantage of TLC" was going to entail "drastic changes" for his UTC trading.[230] Gates understood as well that the only economic rationale for executing such trades was to capture MLSA. As he acknowledged in testimony, losing money on the trades "wasn't merely highly likely. It was guaranteed. You were going to absolutely lose money on that trade."[231]

e. Implausible Explanations: Chen was not pursuing the "home run" strategy.

At the outset of the investigation, Respondents seemed to concede that Chen's trading was indeed as it appeared to be: a strategy for exploiting the then-existing rules by placing circular, wash-like trades that cancelled each other out to capture millions of dollars in MLSA without being exposed to any meaningful price risk. After the trading had stopped, however, and after Chen and others had provided significant testimony about the round trip trades, Respondents and the experts they hired offered an alternative explanation for Chen's trading. But, as discussed at length below, this strategy, developed after the fact by Respondents' experts, is fatally flawed because it is incompatible with the evidence.

This novel explanation, alternately styled the "black swan"[232] or "home run"[233] theory, contends that Chen's true purpose in putting on the round trip UTC trades was not to collect MLSA on each UTC trade pair, but rather was a bet on counterflow positions to

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[229] Email from Kevin Gates to Alan Chen (Apr. 7, 2010, 01:04:09 PM) (POW00016642).

[230] Email from Alan Chen to Kevin Gates (Aug. 5, 2010, 2:35 PM) (POW00004686) (emphasis supplied).

[231] K. Gates Test. Vol. II Tr. 175:2-4.

[232] *See* Chen Response to Preliminary Findings at 4. The "black swan" descriptor is a reference to *The Black Swan*, by Nassim Nicholas Taleb. *Id*. and n.21. As Taleb summarized his theory, it involves an event "outside the realm of regular expectations, because *nothing in the past can convincingly point to its possibility*." *See*, "The Black Swan: The Impact of the Highly Improbable" available at http://www.nytimes.com/2007/04/22/books/chapters/0422-1st-tale.html (visited Jul. 11, 2014) (emphasis supplied). In other words, Chen purports to have been expecting something "outside the realm of regular expectations," when in fact his goal was to profit from the highly-predictable receipt of large amounts of MLSA from self-cancelling transactions. *But see* Chen 1b.19 Response at 12 (denying that it was a "Black Swan" strategy).

[233] *See* Powhatan Submission, Affidavit of Richard Tabors at 9 (Tabors Aff.).

capture a windfall in the event that one of the two "legs" of the transaction pair fails to clear.[234] As Tabors explains it:

> By placing UTC bids in both directions between two points with the same positive cap, the trader could guarantee that one bid will fail to clear the market while the other bid clears in the unlikely event that congestion exceeds the cap.[[235]] Receiving a credit from transmission losses – independent of the size of that credit – reduces the fixed cost per MWh per trade, thus making it possible for a trader to place more trades at the same cost to the trader – increasing the volume of trades undertaken. In short, transactional costs are reduced. At the same time, reducing this transactional friction allows UTC traders to identify additional trading strategies where volumetric increase could provide a higher payoff from low probability events. Because transactional friction is reduced, it is economically rational to pursue such low probability, but high payoff, events more aggressively. The pre-specified condition would occur when transmission congestion in the day-ahead market exceeded the cap set by the trader. This might have been a cap at $50/MW, the maximum that was allowed by PJM rules . . . With transaction costs reduced or even eliminated, the trader could put on larger volumes more often in the hope of "hitting the home run."[236]

Respondents invest a great deal of effort constructing and presenting this "home run" theory to support their claim that Chen was doing something other than simply churning out UTC trades to capture MLSA credits.[237] The home run theory, however, suffers from a fatal flaw: it is entirely unsupported by the facts and directly contradicted by the contemporaneous evidence.

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[234] Tabors Aff. at 8.

[235] This formulation is incorrect. The only way to guarantee that one leg failed to clear would be to bid at a level that was guaranteed not to clear. But of course, under those circumstances, a trader might just as well refrain from placing a bid on the leg he hopes will break.

[236] Tabors Aff. at 9-10.

[237] *See* Chen Submission at 8-9; Pirrong Aff.; Powhatan Submission at 12-13; Tabors Aff.; Chen Response at 4-7; Chen 1b.19 Response at 9-14; Comments of Roy J. Shanker (unsworn statement submitted with Powhatan's 1b.19 Response) (Shanker Comments) at ¶¶ 38 – 45; Affidavit of Stewart Mayhew (executed Nov. 6, 2013) (Mayhew Aff.) (submitted with Powhatan's 1b.19 Response); Statement of Larry Harris (unsworn statement submitted with Powhatan's 1b.19 Response) (Larry Harris Statement).

Although there are many emails and other evidence of communications between Chen and Gates about trading strategy, none of them provides any support for the idea that Chen was pursuing a "home run" strategy, rather than the MLSA-targeting scheme the generated millions of dollars in profits for Chen and Powhatan. On the contrary, the record shows that Chen sought to *avoid* risk as much as possible, and that he did not propose and Gates did not accede to the "home run" strategy or anything like it.

In fact, Tabors – who offers the most developed version of the "home run" theory[238] – appears to be deeply uninformed about the actual facts of the case.[239] Notably, Tabors decided that Chen had employed a "home run" theory without reviewing Chen's contemporaneous emails with Gates and without reading Chen's deposition, which provide no support for – and in fact contradict – that theory.[240]

The various consultants hired by Respondents attempt to emphasize the risks that undertaking such a "home run" strategy would entail.[241] The home run theory is predicated in no small part on the hypothesis articulated by Tabors that Chen was a "real sort of gambler in the trading business" who would not have been interested in the sort of "nickel-and-dime" type of profits trading for MLSA yielded.[242] This characterization of Chen is impossible to square with the facts.[243] The evidence demonstrates that Chen had no appetite for the sort of reckless risk-seeking the home run theory imputes to him.

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[238] Tabors testified that he reviewed the Chen Submission to which the Pirrong Aff. was attached and learned "[v]ery little" from it. Testimony of Richard Tabors (May 14, 2012) (Tabors Test.) Tr. 20:6-13. "I was interested in understanding the trades and what the trade structure and logic was. That document was not very helpful to me in doing that." Tabors Test. Tr. 20:16-18.

[239] *See, e.g.*, Tabors Test. Tr. 10:18, 13:20-24, 15:2, 21:10-12, 24:9-22, 25:20, 28:6-15, 29:12 – 30:3-9, 31:15-16, 34:6-22. Respondents' other consultants likewise seem generally not to have relied on contemporaneous evidence. *See* Appendix B to Statement of Terrence Hendershott (Hendershott Statement); Appendix B to Aff. of Stewart Mayhew; Statement of David Hunger (Hunger Statement) at 2. Respondents' other consultants do not identify the material that forms the basis for their opinions.

[240] Tabors Test. Tr. 24:9-17 (Tabors did not read Chen's deposition transcript); *id.* at 25:20-26:1 (Tabors did not review Chen's emails with Powhatan).

[241] *See* Tabors Aff., Hunger Statement, Shanker Comments.

[242] *See* Tabors Test. Tr. 46:1-16 and Tabors Aff. at 20. Tabors elaborated that, "I know an awful lot of traders, and I don't think Alan's any different from any of the other ones that sat on the floor at Enron." Tabors Test. Tr. 46:15-17.

[243] Gates seemed similarly risk-averse. *See*, *e.g.*, Email from Kevin Gates to Alan Chen (Mar. 19, 2010, 4:57 PM) (POW00016931) ("We'd like to increase our exposure, but are concerned about the risks.")

Chen testified repeatedly as to his risk aversion in trading.[244] A week and a half *after* he began implementing the round trip UTC trading strategy, Chen explained to Gates that, "we increased volumes but decreased risk. If we rate the risk on 5/30 at 1.0, we now have probably 0.5."[245] Chen added that, "I'd like to be very conservative and get the lost money back and then some. After that I'll gradually increase the risk."[246] Gates – who was nervous all along about whether Chen's trading would involve significant risk – concurred with that approach.[247]

Despite their emphasis on the theoretical risks of the supposed "home run" strategy, Respondents effectively ignore the risk that Chen would *lose* large amounts of money if one of the legs of Chen's identically-paired trades did not clear. Because the trades were paired to achieve a wash or round trip between two nodes, each of the round trip UTC transaction pairs had one prevailing flow leg and one counterflow leg.[248] If both legs were bid at the maximum positive cap of $50/MW and the Day-Ahead price settled higher than $50/MW, the prevailing flow leg would "break" but the counterflow leg would clear. Respondents would then receive the Day-Ahead settlement price, but would be forced to pay back the Real-Time settlement price. Their financial upside would be limited to the amount by which the Day-Ahead settlement price exceeded the Real-Time settlement price. In other words, the only way this strategy could "hit the home run" is if there was a major Day-Ahead price spike, followed by a cratering of prices in Real-Time.[249] If Real-Time prices stayed high or increased relative to Day-

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[244] *See, e.g.*, Chen Test. Vol. I Tr. 52:7 ("I'm not taking a high-risk, high-reward trade"); 52:16-17 ("it's not like I'm trying to take on high-risk, high reward"); 66:3-8 (stating that he traded to minimize risk).

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

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

[247] Email from Kevin Gates to Alan Chen (Jun. 14, 2010, 05:52:46 PM) (POW00004837) ("Yes, I'd like to make more money before we ramp up risk.").

[248] "Prevailing flow" refers to the direction in which congestion is expected. Counterflow is the opposite. So if congestion is expected A-to-B, then A-to-B is the prevailing flow path and B-to-A is the counterflow path. As PJM has explained, "forward flow [i.e., prevailing flow] UTCs are profitable when they increase Day Ahead congestion such that it is closer to the congestion observed in real-time. In the counterflow direction, UTCs are profitable when they relieve Day Ahead congestion on a path that is less constrained in real time." Report on the Impact of Virtual Transactions, Docket No. ER13-1654-000, at 3 (filed Feb. 7, 2014).

[249] Chen described this scenario – which never occurred – in his testimony. *See* Chen Test. Vol. I Tr. 64:7-17.

Ahead prices, the strategy would produce minimal gains or potentially large losses. Chen understood this.[250]

Chen himself was adamant that he would never adopt a risky counterflow-reliant strategy like the home run approach. Early on in their business relationship, he 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."[251] He also admitted at deposition that he did whatever he could to *decrease* the likelihood that one of the two legs of his identically-paired UTC trades would break.[252] In fact, the bids Chen placed to implement his scheme were far higher than the highest recent historical Day-Ahead congestion prices on those paths – typically, his bids were at least one standard deviation greater than the historically widest spread on the selected path.[253] Moreover, while Chen briefed Gates in detail about his actual strategies and communicated regularly with him,[254] he said nothing to Gates about anything resembling the home run strategy, even though he would have been implementing it on Powhatan's behalf.[255] At their June 25, 2010 strategy meeting, Chen and Gates discussed two UTC trading strategies: "(i) those where [Chen] 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

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[250] *See* Chen Test. Vol. I Tr. 101:4-7 ("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").

[251] *See* Email from Alan Chen to Kevin Gates (Jul. 22, 2008, 2:00 PM) (POW0001553). Gates, for his part, was relieved that Chen "doesn't seem that he's writing insurance against congestion. [I.e., taking counterflow positions] Makes me want to give him more money." Email from Kevin Gates to Chao Chen (Jul. 22, 2008, 01:34:18 PM) (POW00008996).

[252] Chen Test. Vol. II Tr. 66:10 – 68:1.

[253] *See infra*, at n.297.

[254] *See, e.g.*, Email from Alan Chen to Kevin Gates (Mar. 5, 2010, 11:28:46 AM) (POW00011676).

[255] Chen contends that, by informing Gates and the other Powhatan investors in June 2010 of the potential risks associated with his round trip UTC trades, he "*implicitly* advised Powhatan of the profits that could be made from the trades." Chen Nov. 17, 2011 Response to Data Request #17(h-i) (emphasis supplied). That is, Chen contends that warning his risk-averse clients of a potentially "catastrophic" risk was the same thing as alerting them to a major profit opportunity. This post hoc explanation is not credible.

isolate the bet that the transmission loss credit would exceed transaction costs."[256] Absent from this list is the home run strategy.

Perhaps most significantly of all, the record shows that both Chen and Gates were very concerned about one leg failing to clear and wanted to take strong measures to avoid that risk. In fact, at their June 25, 2010 meeting Chen committed to alert Gates if he had "any concerns" that one leg of a set of paired UTC trades might not clear, because they both understood that if that, "*while it does not occur often, when it does occur, it could be catastrophic*."[257] Chen himself testified that his round trip UTC trading strategy was an attempt to eliminate risk, not to embrace it.[258]

In sum, the alternative explanation proffered by Respondents for the round trip UTC trades is not merely implausible, it is flatly contradicted by the facts.

2. The Round-Trip UTC Trading Strategy Was Similar to Enron's Manipulative Death Star Strategy

Contrary to Respondents' assertions, the type of behavior evident in Chen's scheme is at the heartland of conduct that the Commission (and, by analogy, the securities laws) have long found unlawful. Although the use of UTCs in this particular scheme is unprecedented, schemes similar to Respondents' are not.

During (and to some extent precipitating) the Western Energy Crisis of 2000 – 2001, traders for Enron and other entities devised and engaged in an array of trading schemes designed to game the markets.[259] Among these unlawful schemes were a number of "congestion-related practices," including "Circular Scheduling" (i.e., "Death Star").[260] The effect of these schemes was to deceive the California ISO into awarding

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

[257] Powhatan Dec. 17, 2010 Supplemental Response to Data Request #10 (emphasis supplied). This data response is among the materials not reviewed by Tabors or Respondents' other hired consultants prior to offering their views about Chen's strategy.

[258] Chen Test. Vol. I Tr. 79:20-25. In his testimony, Gates misleadingly described this reduction of risk as "introducing risk into the portfolio." K. Gates Test. Vol. II Tr. 172:3-9.

[259] *See generally*, Memorandum from Christian Yoder and Stephen Hall to Richard Sanders Re: Traders' Strategies in the California Wholesale Power Markets'/ISO Sanctions (Dec. 6, 2000) (Enron Gaming Memo) available at http://www.ferc.gov/industries/electric/indus-act/wec/enron/12-06-00.pdf (visited Oct. 27, 2014).

[260] *See American Electric Power Service Corporation, et al*., 103 FERC ¶ 61,345, at P 41 (2003).

the traders congestion relief payments for trades that did not relieve congestion.[261] The Commission condemned as unlawfully manipulative those "gaming practices" even though the trades were not explicitly proscribed by the terms of the applicable tariff, and were executed without affirmative concealment or overt false statements. In so doing, the Commission rejected claims that such practices were legal and that market participants were not adequately on notice that the Commission would deem them illegal. The Commission thus made clear – long before Chen entered into the trades at issue in this investigation – that analogous practices would be unlawful.

In the Circular Scheduling practice, better known as Death Star, traders scheduled a counterflow to receive a congestion relief payment, but also scheduled offsetting transactions. Death Star involved A-to-B and B-to-A schedule pairs, e.g., Lake Mead to California-Oregon Border (COB), paired with COB to Lake Mead.[262] Hence, "[w]ith the same amount of power scheduled back to the point of origin . . . power did not actually flow and congestion was not relieved. Circular Scheduling was profitable as long as the congestion relief payments were greater than the cost of scheduled transmission."[263] Other congestion-related practices similarly profited from deceiving the California ISO's congestion management software into awarding congestion-relief payments even though the net effect of such schedules was a nullity.[264]

These congestion-related practices were fraudulent and involved deception even though they did not violate any express terms of the then-existing tariff.[265] As the Final Staff Report on Price Manipulation in Western Markets noted, the congestion-related gaming practices were "designed to generate payments for relieving transmission congestion by 'fooling' the Cal ISO's computerized congestion management system."[266]

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[261] "According to the [California] ISO rules, market participants received congestion relief payments for relieving flows in the direction of congestion and increasing counterflows in the opposite direction." *American Electric Power Service Corporation, et al*., 103 FERC ¶ 61,345, at P 41 (2003); *see also*, Enron Gaming Memo at 3.

[262] Enron Gaming Memo at 4.

[263] *American Electric Power Service Corporation, et al.*, 103 FERC ¶ 61,345, at P 43 (2003). Similarly, Respondents' round-trip UTC trades were profitable as long as the MLSA payments were greater than the cost of scheduled transmission.

[264] *See id.* PP 42-44, and Final Staff Report on Price Manipulation in Western Markets, *Fact-Finding Investigation of Potential Manipulation of Electric and Natural Gas Price*s, Docket No. PA02-2-000, at VI-27 (Mar. 2003) (Final Staff Report).

[265] The Commission's current Anti-Manipulation Rule bars conduct "that *operates* or *would operate* as a fraud or deceit upon any entity." 18 C.F.R. § 1c.2 (2014) (emphases supplied).

[266] Final Staff Report at VI-26.

For instance, the return leg of the Death Star transactions was scheduled on paths outside of the California ISO's control area, rendering them invisible to the ISO as a practical matter, even though the counterflow schedule involved in the Death Star transactions was visible to the CAISO and Enron made no affirmative misrepresentation or false statement in connection with the circular schedule. [267]

The only tariff provisions the congestion-related practices were found to violate were certain Market Monitoring and Information Protocols (MMIPs) prohibiting "gaming" and "anomalous market behavior." Each concept was very generally defined.[268] Nevertheless, the Commission found that the tariff incorporated those general provisions and that they, in turn, proscribed the schemes. The Commission also rejected challenges that the relevant tariff provisions were impermissibly vague with respect to what conduct was prohibited. In this vein, the Commission noted that

> The Enron memoranda [describing the congestion-related practices, among others] cited in the Staff Final Report illustrate the creativity of the various trading strategies it employed to the economic detriment of the market, other market participants and, ultimately, customers. Enron (and others) would demand that a regulatory agency have the prescience to include in a rate schedule *all* specific 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 and allow them only to pursue, to phrase it simply, last year's misconduct – essentially, to continually fight the *last* war and deny the capability to fight the present or next one.
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[267] *See* Memorandum from Christian Yoder and Stephen Hall to Richard Sanders Re: Traders' Strategies in the California Wholesale Power Markets'/ISO Sanctions at 5 (Dec. 6, 2000) ("The ISO probably cannot readily detect this [Death Star] practice because the ISO only sees what is happening inside its control area, so it only sees half the picture"), available at http://www.ferc.gov/industries/electric/indus-act/wec/enron/12-06-00.pdf (visited Jul. 14, 2014).

[268] "Gaming" was defined, in part, as "taking unfair advantage of the rules and procedures set forth in the . . . [t]ariffs . . . to the detriment of the efficiency of, and of consumers in, the ISO markets." *American Electric Power Service Corporation, et al*., 103 FERC ¶ 61,345, at P 17 (2003) (quoting California ISO MMIP 2.1.3). "Anomalous market behavior," in turn, was defined in part as "behavior that departs significantly from the normal behavior in competitive markets" including, explicitly, "unusual trades or transactions" and "pricing and bidding patterns that are inconsistent with prevailing supply and demand conditions." *Id*. P 18 (quoting California ISO MMIP 2.1.1).

> [T]he MMIP provided adequate notice to market participants of what conduct was prohibited. The mere fact that the MMIP does not expressly prohibit in so many words specific trading strategies . . . simply means that the Commission did not (as, indeed, it could not) foresee all the myriad means that certain market participants could employ to the detriment of competition; it does not mean that market participants determined to have engaged in Gaming Practices and Partnership Gaming may escape disgorgement of the unjust profits that they gained by their conduct. . . . . It is . . . clear that Enron, the author of these trading strategies, recognized that its trading strategies could have been prohibited by the MMIP and that Enron could be severely sanctioned for the trading strategies, if it were caught. Given this, Enron's (and others') current position that the language of the MMIP does not allow market participants to know what conduct is prohibited is not credible.[269]

Respondents' scheme is similarly proscribed by the Anti-Manipulation Rule. Like Death Star, Respondents' round-trip UTC trades were designed to falsely appear to the RTO to be bona fide transactions (and on that basis to capture a benefit) while in fact they were substantively nullities. Like Death Star, Respondents' round-trip UTC trades were deceptive and manipulative even though they did not involve any false statements, active concealment, or other explicit tariff violations. And in light of the Commission's unambiguous condemnation of, and enforcement action against Death Star and the other congestion-related practices (even aside from the long-standing prohibition of wash trades and other sham transactions, discussed below), Respondents were on notice that like another scheme to "make money by moving electricity around in a circle"[270] – Death Star – their strategy was improper.

3. The Round Trip UTC Trades Are Functionally Equivalent to Wash Trades

a. Wash Trades and Wash-Like Trades Have Long Been Explicitly Prohibited

Respondents' round trip UTC trades were also manipulative because they were functionally equivalent to wash trades, which have long been condemned by the Commission, including when firms engaged in similar schemes during the Western Energy Crisis.

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[269] *American Electric Power Service Corporation, et al.*, 106 FERC ¶ 61,020, at PP 45, 48 (2004) (emphases in original, citations omitted).

[270] Email from Kevin Gates to Alan Chen (Aug. 12, 2010, 4:18 PM) (POW00004685).

At the time the Western Energy Crisis occurred in 2000-2001, the Commission had not promulgated any regulations explicitly prohibiting market manipulation. Accordingly, as discussed above, the Commission was able to take action against such manipulative practices, by, among other things, enforcing the broad anti-manipulation provisions of the CAISO and Cal PX tariffs, which prohibited "gaming," and "anomalous market behavior." In the wake of the crisis, the Commission promulgated the Market Behavior Rules to more explicitly prohibit similar misconduct in other markets.[271]

Market Behavior Rule 2 prohibited "[a]ctions or transactions that are without a legitimate business purpose and that are intended to or foreseeably could manipulate market prices, market conditions, or market rules for electric energy or electricity products."[272] Among the schemes that the Commission explicitly proscribed was wash trading – a species of sham trading that the Commission described as "pre-arranged offsetting trades of the same product among the same parties, which involve no economic risk and no net change in beneficial ownership."[273] But this description was not rigid or formalistic; the Commission established that this description of wash trading merely furnished an example of a prohibited practice, and it noted that the description was intended to capture the "key elements" of a wash trade, rather than to define the practice narrowly.[274]

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[271] The Commission's first effort in this regard was its Order Establishing Refund Effective Date and Proposing to Revise Market-Based Rate Tariffs and Authorizations, *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorization*, 97 FERC ¶ 61,220 (2001), issued on November 20, 2001. The Commission subsequently modified those proposed revisions in view of information brought to light both by comments from industry and from its own investigation of the Western Energy Crisis. In June 2003, the Commission issued an order seeking comment on a new version of those proposed revisions. *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorization*, 103 FERC ¶ 61,349 (2003). The Market Behavior Rules were ultimately adopted in November 2003. *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218 (2003) (Order Adopting Market Behavior Rules).

[272] Market Behavior Rule 2, Order Adopting Market Behavior Rules at P 35 and Appendix A.

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

[274] *See* Order Adopting Market Behavior Rules, 105 FERC ¶ 61,218 at P 35 and Appendix A ("Prohibited actions and transactions *include, but are not limited to* pre-arranged offsetting trades of the same product among the same parties, which involve no economic risk and no net change in beneficial ownership (sometimes called 'wash trades').") (emphasis supplied); and *id*. P 53 (identifying the two "key elements" of wash

The Commission expressly rejected arguments that the rule should be construed narrowly to proscribe only specifically identified forms of conduct:

> We will reject 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.[275]

The Commission clarified that, with respect to "transactions with economic substance," where "value is exchanged for value," sellers would have the opportunity to demonstrate "that their actions were not designed to distort prices or otherwise manipulate the market."[276] In this context, it noted, however, that the "rates, terms and conditions" of such a transaction must be "disciplined by the competitive forces of the market."[277] Finally, although the rule was intentionally broad in scope, it was understood that market participants had been given sufficient and appropriate notice of the type of conduct that had been proscribed. As the Commission stated, "sellers can recognize the difference between actions and strategies that are in furtherance of legitimate profit opportunities," and those that are not.[278]

In direct response to the Western Energy Crisis and the "gaming practices" that came to light as a result, Congress passed the Energy Policy Act (EPAct 2005).[279] In relevant part, this statute included provisions that conferred on the Commission specific and broad anti-manipulation authority. In adopting the Anti-Manipulation Rule in Order No. 670, the Commission clarified that the conduct prohibited by Market Behavior Rule 2 would also be equally prohibited under the Anti-Manipulation Rule.[280] When the Commission rescinded Market Behavior Rule 2 it reiterated that the Anti-Manipulation

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trading as being prearranged to cancel each other out and involving no economic risk). This approach is consonant with how the CFTC has viewed wash trades: "A wash sale is a transaction made without an intent to take a genuine, bona fide position in the market, such as a simultaneous purchase and sale designed to negate each other so that there is no change in financial position." *In re San Diego Gas & Elec. Co*., Comm. Fut. L. Rep. (CCH) ¶ 31,549, 2010 WL 1638992 (CFTC Apr. 22, 2010) *citing Reddy v. CFTC*, 191 F.3d 109, 115 (2d Cir. 1999).

[275] *Id*. P 41.

[276] *Id*. P 37.

[277] *Id*. P 42.

[278] *Id*. P 44.

[279] Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (2005).

[280] *Prohibition of Energy Market Manipulation*, Order No. 670, FERC Stats. & Regs. ¶ 31,202, *order denying reh'g*, 114 FERC ¶ 61,300, at P 59 (2006).

Rule proscribed, among other things, all of the conduct prohibited under Market Behavior Rule 2.[281] In that same order, it again emphasized that its anti-manipulation authority was broad in scope and could not be defined narrowly because doing so would only reward clever manipulators who invented novel and unforeseen schemes to defeat otherwise well-functioning markets: "fraud is a very fact-specific violation, the permutations of which are limited only by the imagination of the perpetrator. Therefore, no list of prohibited activities could be all-inclusive. The absence of a list of specific prohibited activities does not lessen the reach of the new anti-manipulation rule . . ."[282]

In short, the Commission's current anti-manipulation authority stems from Congress' decision to arm it with tools adequate to combat the sort of manipulative gaming practices that came to light in the Western Energy Crisis. Those gaming practices, and schemes that are functionally equivalent to those practices, are prohibited under Part 1c.

The evidence shows that Chen's round trip UTC trades were functionally equivalent to expressly prohibited practices such as wash trades. Specifically, they met the two "key elements" of wash trading: they were "prearranged to cancel each other out" and they involved almost "no economic risk."[283] Put another way, they were intended to create the false appearance of bona fide market activity without actually taking a bona fide position in the market. As courts have found, "[t]he essential and identifying characteristic of a 'wash sale' seems to be the intent not to make genuine, bona fide trading transactions."[284] This characterization squarely applies to Respondents' round-trip UTC trades.

In seeking to distance Chen's round-trip trades from the universally condemned practice of wash trading, Respondents advance a highly restrictive definition of wash trading and contend that three features of Chen's round trip UTC trades place them outside that definition. They contend, first, that Chen's round trip UTC trades were

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

[282] MBR Rescission Order at P 24. Courts have similarly found that the purpose of the 1934 Exchange Act's anti-manipulation provisions to be to give effect "to the realization that an honest securities market depended on more than the exclusion of the cruder forms of lying, such as wash sales, matched orders, and the like." *Rosenberg v. Hano*, 121 F.2d 818, 820 (3d Cir. 1941).

[283] Order Adopting Market Behavior Rules, 105 FERC ¶ 61,218 at P 53.

[284] *Sundheimer v. CFTC*, 688 F.2d 150, 151 (2d Cir. 1982), *citing CFTC v. Savage*, 611 F.2d 270, 284 (9th Cir. 1979) (quoting *In re Jean Goldwurm*, 7 Agric. Dec. 265, 274 (1948)).

profitable;[285] second, that they were not "intended . . . to move prices in the market in order to benefit some 'other' position or achieve some 'external' purpose, characteristic of 'wash trade' type behavior,"[286] and third, that Chen's round trip UTC trades were not risk-free.

Respondents' arguments are unpersuasive, not least because the Commission's Anti-Manipulation Rule is not limited to a narrow set of specifically enumerated, technically defined schemes. Moreover, Respondents' proposed technical definition is at odds with prior Commission pronouncements.

As to "profitability," the only way Respondents' self-cancelling trades were profitable was because they triggered MLSA payments intended for legitimate spread trades. This type of "profitability," far from being a defense, is simply the trader's reward for engaging in manipulative trades.

In any event, the Commission has never indicated that it is essential to a wash trade that the transaction not be profitable, nor has the Commission ever insisted that wash trades be executed to move prices. Quite the contrary: the Commission has made clear that "profitability is not determinative on the question of manipulation and does not inoculate trading from any potential manipulation claim,"[287] and that trades need not have been executed for the purpose of moving market prices to constitute wash trades.[288]

As for the risk associated with the round trip UTC trades, Respondents argue that their trades still incurred risk because there was a non-zero chance that one of the legs of a transaction pair would not clear, thereby exposing them to Day-Ahead and Real-Time prices. But Respondents do not and could not contend that any wash or wash-like trade

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[285] Chen Submission at 7; Powhatan Submission at 15.

[286] Powhatan Submission at 16.

[287] *Deutsche Bank Energy Trading, LLC*, 142 FERC ¶ 61,056, at P 20 (2013), quoted at *Barclays*, 144 FERC ¶ 61,041 at P 43; *see also*, *Intertie Bidding in the California Independent System Operator's Supplemental Energy Market*, 112 FERC ¶ 61,333, at 62,481 (2005) ("profit maximization alone does not constitute a legitimate business purpose"); *accord*, *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218, at P 37-38 (2003).

[288] *See* Order Adopting Market Behavior Rules, 105 FERC ¶ 61,218 at P 53 (declining to require that wash trades be executed for a specific purpose and declaring instead that, "we know of no legitimate business purpose attributable to such behavior."). The Commodity Futures Trading Commission has similarly recognized that impermissible wash trades may be executed for purposes other than moving market prices. *See Wilson v. CFTC*, 322 F.2d 555 (8th Cir. 2003) (wash trades executed to shift profits and losses for accounting purposes); *Sundheimer v. CFTC*, 688 F.2d 150 (2d Cir. 1982) (wash trades employed to obtain illegal tax benefits).

must be absolutely free from all risk whatsoever.[289] Mere theoretical risk is not enough to evade the prohibition against "wash" trades.[290] Moreover, the type of risk they point to is irrelevant because it is not the kind of risk (namely, arbitrage between Day Ahead and Real Time prices) that UTC trades are designed to incur.

In addition, any such risk was minimal at best, reflecting only the irreducible risk to which all UTC trades were subject because all UTC trades were subject to a +/- $50 price cap at the time – a price cap that was rarely even approximated in the trades under investigation. Treating the existence of ineliminable risks as a defense would effectively eradicate liability for wash and wash-like trades.

As with any manipulative scheme, there is a chance that the device or scheme will fail, and Respondents' scheme was no different. But the mere possibility that a scheme might fail does not make it lawful. There was indeed a very small theoretical possibility that, despite Chen's best efforts to prevent that result, one leg of his trade might clear while the other did not, leading either to unexpected (and potentially large) losses or gains. That is simply an irreducible risk common to all UTC trades. Moreover, notwithstanding the ineliminable risk of one of Chen's round trip UTC trades failing to clear the Day-Ahead market, both legs of the round trip trades were accepted without fail. Chen's view of the risk of not clearing is reflected in his comment to Gates, "[w]e don't have this kind of trades [*sic*] rejected."[291]

Indeed, the bids for Respondents' round trip trades were virtually guaranteed to clear. On the principal paths Chen selected for his wash-type UTC trades, his bids vastly exceeded historical congestion spreads 99% of the time, and were more than twice their highest historical Day-Ahead spreads.[292] This was no accident. Chen understood price

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[289] For example, matched stock trades intended to cancel one another out might not do so if prices changed between the time the first and the second order were executed.

[290] Precedent from both CFTC and SEC supports this. *See*, *e.g.*, *Piasio v. CFTC*, 54 Fed. App'x 702, 705 (2d Cir. 2002) ("Under the CFTC's precedent, a wash sale is one in which market risk is reduced 'to a level that has no practical impact on the transaction at issue," and in which the customer has 'the intent not to make a genuine bona fide trading transaction.'"). The SEC has expressed similar views. *See* Short Sales, 69 Fed. Reg. 48008-01, 48021 (characterizing a species of "sham transactions" as involving "no legitimate economic purpose or substance to the contemporaneous purchase and sale, no genuine change in beneficial ownership, *and/or little or no market risk*") (emphasis supplied) (internal citation omitted).

[291] Email from Alan Chen to Kevin Gates (Aug. 24, 2010, 06:20:38 PM) (POW00004722).

[292] The vast bulk of Chen's wash-type offsetting UTC trades were placed on five paths: MISO-DAY, MISO-COMED, MISO-COOK, MISO-ROCKPORT and MISO-

correlations and selected his paths for the purpose of limiting congestion volatility. Moreover, unlike some longer-term products,[293] UTC trades are daily bid (or not bid) into the Day-Ahead market, which enables a trader like Chen to have up-to-date information about what conditions are likely to be like before he even places those bids. If Chen saw conditions suggesting a potential spike in Day-Ahead congestion prices he could (and would) have simply declined to bid the trade.[294]

In sum, Chen's round trip UTC trades were the functional equivalent of wash trades. Placed in the same volumes, in the same hours, in opposite directions on the same paths, they were prearranged to cancel one another out. They involved only notional risk, and were executed to ramp up volumes without actually taking a position in the market, for the purpose of creating the illusion of greater bona fide market activity and thereby capturing an extrinsic benefit, i.e., the MLSA.

Use of UTCs to effectuate wash trades is relatively novel, but wash and wash-like trades themselves are not. PJM originally created UTCs as a mechanism for hedging physical transactions;[295] although they eventually evolved into a product primarily used for financial arbitrage, by the summer of 2010 the rules governing MLSA rendered UTCs susceptible to abuse in a wash-like scheme. To address novel schemes and novel variations of known schemes, the Commission gave itself flexibility in defining prohibited manipulative behavior under the Anti-Manipulation Rule. The Commission has long understood that it "oversee[s] a dynamic and evolving market where addressing

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AEP. During the period January 2008 through December 2010, in 99% of all hours during the period, the maximum Day-Ahead congestion spreads on these paths were below $11.69 (MISO-DAY), $12.40 (MISO-COMED), $11.52 (MISO-COOK), $8.75 (MISO-ROCKPORT), and $14.40 (MISO-AEP) respectively. Chen's bids on these paths typically ranged from $35 - $50, far in excess of these historical spreads. In other words, the low end of Chen's bidding was more than twice the historical congestion spreads on these paths in over 99% of hours.

[293] Financial Transmission Rights (a/k/a FTRs), for example, are bid at auction on an annual, quarterly, or monthly basis.

[294] *See* Powhatan Dec. 17, 2010 Supplemental Response to Data Request #10 (explaining that Chen committed to warn Gates ahead of time if he ever anticipated that one leg of a pair of matched trades might fail to clear).

[295] *See Atlantic City Elec. Co., et al.*, 86 FERC ¶ 61,147, at 61,528 (1999) (directing establishment of two-settlement system to facilitate price certainty); PJM Compliance Filing, *PJM Interconnection, L.L.C.*, Docket No. ER00-1849-000 (Mar. 10, 2000) (proposing two-settlement system including UTCs), and *PJM Interconnection, L.L.C.*, 91 FERC ¶ 61,148 (2000) (accepting compliance filing).

yesterday's concerns may not address tomorrow's,"[296] so to effectively deter manipulative conduct, it must be "able to address newly conceived misconduct," or else it will be forced "to continually fight the *last* war . . . [without] the capability to fight the present or next one."[297]

Even if the notional risk associated with Chen's round trip trades sufficed to distinguish them in some way from the more traditional forms of wash trading, that distinction would not change the fact that they were executed for the same purpose and to the same effect as wash trades have traditionally been executed. In sum, whether described as wash trading or not, Respondents' scheme to capture MLSA by creating the false appearance of bona fide market activity through prearranged offsetting round trip UTC trades is unlawful and is prohibited by the Commission's current Anti-Manipulation Rule.

b. Chen Was Not Implementing the Risky Counterflow Strategy Respondents' Consultants Impute to Him: *"I'd not bet anything big for counterflow positions: never, period."*[298]

Respondents' main argument against staff's determination that Chen's A-to-B and B-to-A trade pairs were unlawful is that they entailed some measure of economic risk. Indeed, Respondents contend that, far from being contrived to eliminate the risks associated with UTC trading, Chen's scheme was actually an ingenious risk-*seeking* counterflow strategy intended to capitalize on unforeseeable and extremely improbable but theoretically possible Day-Ahead price spikes.

As discussed in detail above, this argument is simply a post hoc invention. Taken at face value, the home run strategy would have been too risky for either Chen or Gates. Contemporaneous documents demonstrate that Chen was adamant that he would "not bet anything big for counterflow positions: never, period."[299] There is no evidence that Chen ever changed his mind about the danger of counterflow strategies, that he ever even analyzed such strategies, or that he ever discussed anything resembling the home run strategy with Gates. On the contrary, the evidence demonstrates that Chen intended to remove risk from his trades and that he did so successfully. The evidence also shows that both Chen and Gates were risk-averse, and that both viewed the failure of one leg to clear

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[296] Order Adopting Market Behavior Rules, 105 FERC ¶ 61,218 at P 38.

[297] *American Electric Power Service Corporation, et al.*, 106 FERC ¶ 61,020, at P 45 (2004) (emphasis in original); *accord*, Order Adopting Market Behavior Rules, 105 FERC ¶ 61,218 (2003); Order No. 670, FERC Stats. & Regs. ¶ 31,202 (2006).

[298] Email from Alan Chen to Kevin Gates (Jul. 22, 2008, 2:00 PM) (POW0001553).

[299] Email from Alan Chen to Kevin Gates (Jul. 22, 2008, 2:00 PM) (POW0001553).

– the event that could theoretically trigger a "home run" – as a potentially "catastrophic" risk to be avoided, not an opportunity to be pursued.

In short, the fact that it was not possible for Chen to eliminate all theoretical risk from the UTC trades he used to effect his manipulative wash trading scheme does not alter the fact that the round trip UTC trades were intended to – and did – achieve the same results as wash trading using more traditional products.

4. Defenses

Respondents' defenses generally do not address Chen's actual trading or trading strategy. With respect to their substantive defenses, Respondents advance several arguments to obscure the true nature of their manipulative scheme. Most of these arguments – that Chen was not seeking to collect MLSA but was instead implementing a high risk "home run" strategy with an extremely low likelihood of success;[300] that Chen's UTC trades were not "sham" or "wash" trades because they entailed non-zero economic risk;[301] that the trades were placed for legitimate business purposes;[302] that they involved no deception;[303] and that Respondents lacked scienter[304] – are not supported by contemporaneous evidence.[305] Only three principal arguments remain: (1) That their conduct was specifically authorized by the Commission's approval of PJM's proposed MLSA distribution methodology; (2) that they lacked fair notice that their scheme would be regarded by the Commission as manipulative; and (3) that the scheme might have been lawful in markets regulated by the Securities Exchange Commission (SEC), which, they argue, precludes a finding of manipulation in the power markets. None of these arguments has merit.

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[300] *See* Tabors Aff.; Pirrong Aff.; Hunger Statement.

[301] *See* Consulting Report of Jeffrey H. Harris (Jeffrey Harris Report); Larry Harris Statement; Mayhew Aff.

[302] *See* Mayhew Aff.; Hunger Statement.

[303] *See* Mayhew Aff.; Hunger Statement.

[304] Chen Submission at 23-26; Powhatan Submission at 9.

[305] *See* Sections III.B, IV.B.2, and IV.B.3, *and see* Section IV.C, below.

a. The Commission Never Approved of Round-Trip UTC Trading: *"If arbitrageurs can profit from the volume of their trades, they are not reacting only to perceived price differentials in LMP or congestion, and may make trades that would not be profitable based solely on price differentials alone."*[306]

As noted above, PJM's efforts at creating an appropriate methodology for distributing MLSA was heavily shaped by litigation.[307] Respondents contend that the *Black Oak* proceeding, and the Commission orders issued therein, means that "the Commission arguably *encouraged* traders to do the very thing that Dr. Chen did."[308] A careful review of that litigation and those orders, however, refutes that contention: at no time did the Commission express approval of schemes in which financial market participants artificially inflate their trading volumes to capture a larger share of MLSA. On the contrary, as discussed below, the Commission's orders consistently described the proper role of financial trading as arbitraging differences between the Day-Ahead and Real-Time prices.

In November 2006, the Commission approved PJM's proposed method for handling excess loss payments: distribute the money to wholesale purchasers of energy in PJM, sometimes referred to as "load."[309] In response, a group of virtual traders calling themselves the "Financial Marketers" filed a complaint in December 2007 asking the Commission to direct PJM to allow financial traders to share in the marginal loss surplus, and proposing a particular method for doing so.[310] In the ensuing proceeding – known as the *Black Oak* proceeding – the Financial Marketers were the principal voice of virtual traders.[311]

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[306] *Black Oak Energy LLC et al. v. PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,208, at P 44 (2008).

[307] *See*, *supra*, Section II.D.

[308] Powhatan Supplemental Submission at 3 (emphasis supplied).

[309] *Atlantic City Electric Co. v. PJM Interconnection, L.L.C.*, 117 FERC ¶ 61,169, *order on reh'g*, 115 FERC ¶ 61,132 (2006).

[310] Notice of Black Oak Energy LLC's et al. Dec. 3, 2007 Complaint, *Black Oak Energy, LLC, et al. v. PJM Interconnection, Inc.*, Docket No. EL08-14-000 (issued Dec. 4, 2007).

[311] The Financial Marketers' coalition included (for some or all of the filings discussed here) Black Oak Energy, LLC, EPIC Merchant Energy NJ/PA, SESCO Enterprises, LLC, Energy Endeavors, LP, Coaltrain Energy LP, and Solios Power, LLC. Chen and his entities did not make any filings in the *Black Oak* proceeding, nor did Powhatan.

In December 2007, four market participants filed briefs opposing Financial Marketers' proposal and warned that the method proposed by the Financial Marketers for distributing loss payments could create perverse incentives for virtual traders to engage in volume trading not for arbitrage purposes, but simply to collect loss payments. A coalition calling itself the PJM Power Providers Group, for example, warned that the method proposed by the Financial Marketers would create incentives for "perverse market transactions," such as trades between "electrically similar points" that "would create a minimal price risk, yet make the financial marketer eligible for a share of the marginal loss over-collection allocations."[312]

Consolidated Edison similarly warned that the MLSA distribution method proposed by the Financial Marketers could "have perverse impacts and result in clearing transactions for purposes of receiving refunds rather than for arbitraging differences in Day Ahead and Real Time prices."[313] Two other commenters gave similar warnings.[314]

In a January 2008 answer, the Financial Marketers responded to these arguments by denying that "virtual Market Participants would engage in large numbers of virtual transactions in order to artificially inflate the number of cleared virtual transactions, and thus any pro rata MW-share reimbursement of marginal losses."[315] With specific

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[312] PJM Power Providers Group Motion to Intervene and Comments, *Black Oak Energy, LLC, et al. v. PJM Interconnection, Inc.*, Docket No. EL08-14-000, at 14 (filed Dec. 26, 2007) (PJM PPG Comments).

[313] Consolidated Edison Energy, Inc. and Consolidated Edison Solutions, Inc**.** Motion to Intervene and Comments**,** *Black Oak Energy, LLC, et al. v. PJM Interconnection ,Inc.*, Docket No. EL08-14-000, at 4 (filed Dec. 26, 2006).

[314] Old Dominion Electric Cooperative's Motion To Intervene, Protest and Request for Rejection, *Black Oak Energy, LLC, et al. v. PJM Interconnection, Inc.*, Docket No. EL08-14-000, at 9 n.12 (filed Dec. 27, 2006) ("If the Complainants were granted an allocation of revenue of marginal loss over-collection based on when they 'pay' marginal losses, then a perverse incentive could be created where it makes sense to create offsetting positions that become profitable solely based on one side of the trade being allocated revenue to which they should never have been entitled"); Duke Energy Ohio, Inc.'s Motion to Intervene and Comments in Opposition to Complaint, *Black Oak Energy, LLC, et al. v. PJM Interconnection, Inc.*, Docket No. EL08-14-000, at 8 (filed Dec. 26, 2007) ("Financial Marketers can increase their gross volumes nearly limitlessly," and by doing large volumes of transactions with minimal expectation of spread gains, "Financial Marketers' expected overcharge refunds would continue to grow").

[315] Financial Marketers' Motion for Leave to Answer and Answer to Comments in Opposition to Complaint, *Black Oak Energy, LLC, et al. v. PJM Interconnection, Inc.*, Docket No. EL08-14-000, at 11 (filed Jan. 10, 2008) (January 2008 Answer).

reference to UTC trades, the Financial Marketers assured the Commission that this would not happen, because the unavoidable fixed costs of doing virtual transactions would make a strategy of volume trading to collect MLSA "highly unprofitable, as well as exceptionally risky. . . . the potential return of marginal losses would *never* justify the risks and costs involved."[316]

In its March 6, 2008 Order denying the *Black Oak* complaint, the Commission explained the role financial traders are intended to play: "the purpose of arbitrage [by financial traders] is to try to take advantage of profitable price differences between the Day-Ahead and Real-Time markets."[317] That is, "[t]he benefits of arbitrage are supposed to result from trading acumen in being able to spot divergences between markets."[318] The Commission therefore sought "to create proper pricing signals *so that arbitrage is profitable only when it reflects real price differentials between Day-Ahead and Real-Time markets*."[319]

That objective, the Commission wrote, was inconsistent with enabling virtual traders (of whom UTC traders are a subset) to collect MLSA from sheer transaction volume: "If arbitrageurs can profit from the volume of their trades, they are not reacting only to perceived price differentials in LMP or congestion, and may make trades that would not be profitable based solely on price differentials alone."[320]

After the Commission denied their Complaint in the March 2008 Order, the Financial Marketers sought rehearing in April 2008.[321] In this filing, the Financial

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[316] January 2008 Answer at 11 (emphasis supplied). They also dismissed as "entirely speculative" any suggestion that such abuses had ever actually occurred. January 2008 Answer at 12. The abuses in question would naturally not have occurred, since there was, as yet, no way for unscrupulous market participants to use them to capture MLSA.

[317] Order Denying Complaint, *Black Oak Energy, LLC, et al. v. PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,208, at P 44 (2008). As discussed above, the Commission allows virtual transactions in ISOs and RTOs because, if done legitimately, they may provide benefits such as price convergence. *ISO New England, Inc*., 113 FERC ¶ 61,055, at P 30 (2005). Volume trading aimed not at arbitrage but at MLSA provides none of these benefits.

[318] Order Denying Complaint at P 51.

[319] *Id*. (emphasis supplied).

[320] *Id*. At this point in the *Black Oak* proceeding, the Commission was addressing concerns about volume trading of virtual trades generally. UTCs, along with INCs and DECs, are a species of virtual trades.

[321] Request for Rehearing, *Black Oak Energy, LLC, et al. v. PJM Interconnection, Inc.*, Docket No. EL08-14-001 (filed April 7, 2008).

Marketers renewed their request that the Commission allow them to share in MLSA payments for their arbitrage trading.[322] The Financial Marketers reminded the Commission that it had repeatedly determined that "the trading activities engaged in by arbitrageurs" are valuable to the overall marketplace, and they further argued that "price convergence" provided by arbitrage transactions would provide a major benefit to the PJM marketplace.[323]

In October 2008, in light of the fact that PJM was proposing to allocate marginal loss surpluses to transactions supporting the transmission grid, the Commission granted the Financial Marketers' request for reconsideration in part, directing PJM to consider whether it was just and reasonable to deny MLSA payments to virtual traders for their arbitrage transactions.[324] In particular, the Commission told PJM to consider whether to allocate MLSA to all market participants that "contribute to the fixed costs of the transmission grid."[325] In this order, the Commission again expressed its view that legitimate arbitrage transactions "reduce price divergence between the Day-Ahead and Real-Time markets."[326]

In its October 2008 Order, the Commission reiterated its concerns about volume trading of virtuals to collect MLSA. In response to Financial Marketers' proposal that MLSA be distributed based on total transaction volume (or "load ratio share"), the Commission stated:

> We also are concerned that since arbitrageurs, unlike load, control their load ratio share by virtue of the number of transactions into which they enter, using a pure load ratio share calculation would provide an incentive for the arbitrageurs to conduct trades simply to receive a larger credit.[327]

The Commission returned to this theme later in the same order:

> Indeed, payment of the surplus to arbitrageurs that is unrelated to the transmission costs could distort arbitrage decisions and reduce the value of arbitrage by creating an incentive for arbitrageurs to engage in purchase

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322 *Id*. at 29 n.78.

323 *Id*. at 28.

324 Order Denying Rehearing in Part and Granting Rehearing in Part, *Black Oak Energy, LLC, et al. v. PJM Interconnection, L.L.C.*, 125 FERC ¶ 61,042 (2008) (emphasis supplied) (October 2008 Order).

325 *Id*. P 36.

326 *Id*. P 43.

327 *Id*. P 38 n.46 (emphasis supplied).

> decisions, not because of price divergence, but simply to increase marginal line loss payments.[328]

PJM sought clarification of the Commission's October 2008 Order.[329] In response to that filing, the Financial Marketers for a second time assured the Commission that virtual traders would never do volume trading aimed at capturing MLSA:

> There is no merit to the claim that updating the allocation percentage will give Market Participants perverse incentives to engage in virtual transactions in order to capture a larger share of the surplus. *As always, Market Participants will conduct virtual transactions when they think they can profit from the difference between the day ahead LMP and the real-time LMP they expect*. The fact that a trader will share in distributions of transmission line loss surpluses based on the volume of transactions it conducts in the day-ahead market should not significantly alter this calculus, given that transmission line losses are just one component of the LMP.[330]

In February 2009, the Commission clarified its October 2008 Order, explaining that in directing PJM to consider expanding the universe of MLSA participants, it "did not intend to exclude virtual traders to the extent that those traders make transmission payments that contribute to the fixed costs of the transmission grid."[331] But the Commission did not suggest any change in its view of volume trading aimed at collecting MLSA, a practice it had twice condemned and that the Financial Marketers had twice disavowed.

Shortly thereafter, PJM proposed changing the tariff to conform to the Commission's February 2009 Order by authorizing MLSA distribution to virtual transactions that paid to reserve transmission on OASIS.[332] The Financial Marketers

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[328] *Id*. P 43.

[329] Specifically, PJM sought clarification as to "whether PJM is to credit those who support the fixed costs of the transmission grid through payments or whether allocation is to proceed relative to load as it is currently stated in the PJM Tariff." PJM Interconnection, L.L.C. Request for Clarification, *Black Oak Energy, LLC, et al. v. PJM Interconnection, Inc.*, Docket No. EL08-14-001, at 7 (filed Nov. 17, 2008).

[330] Financial Marketers' Answer to Request of PJM Interconnection, LLC for Clarification, *Black Oak Energy, LLC, et al. v. PJM Interconnection, Inc.*, Docket No. EL08-14-001, at 6 n.5 (filed Dec. 2, 2008) (emphasis supplied).

[331] *Black Oak Energy, LLC, et al. v. PJM Interconnection, L.L.C.*, 126 FERC ¶ 61,164, at P 15 (2009).

[332] PJM Compliance Filing, *Black Oak Energy, LLC, et al. v. PJM Interconnection, L.L.C.*, Docket No. EL08-14-002 (filed Mar. 26, 2009).

filed another protest, arguing that *all* virtual transactions ought to receive a share of MLSA based on the virtual transactions' proportional share by volume of all Day-Ahead transactions, whether physical or virtual.[333] In their protest, the Financial Marketers for the third time stated that virtual traders would not engage in volume trading to collect MLSA, repeating the same unequivocal assurances they had given previously.[334]

On September 17, 2009, the Commission rejected Financial Marketers' April 2009 Protest and accepted PJM's March 2009 Compliance Filing.[335] Under the procedure proposed by PJM and approved by the Commission, MLSA was to be paid on a pro rata basis to market participants, including virtual traders, who reserved paid transmission on OASIS.[336] No commenter suggested to the Commission that this method would allow financial traders to profitably engage in volume trading to collect MLSA, and (as just discussed) the Financial Marketers had by then three times assured the Commission that virtual traders would not engage in that practice. In this order, the Commission reiterated that "[t]he key point" is that whatever mechanism for distributing the marginal loss surplus PJM selects, it must be "equitably applied" and must "ensure that marginal cost pricing sends customers the correct price signal."[337] As noted previously, this September 2009 order set the stage for the trading at issue in this case.

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333 *Black Oak Energy, LLC et al. v. PJM Interconnection, L.L.C.*, 128 FERC ¶ 61,262, at P 13 (2009), *citing* Black Oak Energy, LLC, et al.'s Protest, and Energy Endeavors LP and Solios Power, LLC's Motion for Leave to Intervene of, *Black Oak Energy, LLC, et al. v. PJM Interconnection, L.L.C.*, Docket No. EL08-14-002, at 14 (filed April 16, 2009) (April 2009 Protest).

334 April 2009 Protest at 14 n.5:

> There is no merit to the claim that updating the allocation percentage will give Market Participants perverse incentives to engage in virtual transactions in order to capture a larger share of the surplus. As always, Market Participants will conduct virtual transactions when they think they can profit from the difference between the day-ahead LMP and the real-time LMP they expect. The fact that a trader will share in distributions of transmission line loss surpluses based on the volume of transactions it conducts in the day-ahead market should not significantly alter this calculus, given that transmission line losses are just one component of the LMP.

335 *Black Oak Energy, LLC et al. v. PJM Interconnection, L.L.C.*, 128 FERC ¶ 61,262 (2009).

336 *Id.* PP 23-26 (2009).

337 *Id.* P 29 (2009).

The Financial Marketers requested rehearing of the September 2009 Order, and in so doing pledged once again that virtual traders would not do volume trading aimed at collecting MLSA, and repeated their assertion that there was "no merit" to the notion that they would do so.[338] The Financial Marketers also filed a new Complaint about MLSA payments in February 2010 in which they again promised that virtual traders would not do volume trading to collect MLSA.[339]

The Commission denied the Financial Marketers' October 2009 Rehearing Petition in April 2010, [340] and their February 2010 Complaint the next month.[341] In June 2010, the same month in which Chen began the trading that is the subject of this Report, the Financial Marketers requested rehearing of the Commission's denial of the February 2010 complaint and, in so doing, for the sixth time assured the Commission that virtual traders would not do volume trading to collect MLSA.[342] In a brief filed with the

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338 Black Oak Energy, LLC, Epic Merchant Energy, LP, Sesco Enterprises LLC, Energy Endeavors LP, and Solios Power, LLC's Request for Rehearing, *Black Oak Energy, LLC, et al. v. PJM Interconnection, L.L.C.*, Docket No. EL08-14-002, at 17 n.4 (filed Oct. 19, 2009) ("There is no merit to the claim that updating the allocation percentage will give Market Participants perverse incentives to engage in virtual transactions in order to capture a larger share of the surplus. As always, Market Participants will conduct virtual transactions when they think they can profit from the difference between the day-ahead LMP and the real-time LMP they expect.").

339 Financial Marketers' Complaint, *Black Oak Energy, LLC, et al. v. PJM Interconnection, L.L.C.*, Docket Nos. Docket Nos. EL08-14-003, EL08-14-004, EL08-14-005, at p.15, n.20 (filed Feb. 2, 2010) (February 2010 Complaint) ("There is no merit to the claim that updating the allocation percentage will give Market Participants perverse incentives to engage in virtual transactions in order to capture a larger share of the surplus. As always, Market Participants will conduct virtual transactions when they think they can profit from the difference between the day-ahead LMP and the real-time LMP they expect.").

340 *Black Oak Energy LLC et al. v. PJM Interconnection, L.L.C.*, 131 FERC ¶ 61,024 (2010).

341 *EPIC Merchant Energy NJ/PA, L.P. et al. v. PJM Interconnection, L.L.C.*, 131 FERC ¶ 61,130 (2010).

342 Epic Merchant Energy NJ/PA, LP, Sesco Enterprises, LLC, Coaltrain Energy LP, and Black Oak Energy, LLC Request For Rehearing, *Epic Merchant Energy NJ/PA, L.P., et al. v. PJM Interconnection, Inc.*, Docket No. EL10-40-001, at 20, n.23 (filed June 9, 2010) ("There is no merit to the claim that updating the allocation percentage will give Market Participants perverse incentives to engage in virtual transactions in order to capture a larger share of the surplus. As always, Market Participants will conduct virtual

Commission in September 2010 (after the trading at issue here), the Financial Marketers characterized trading such as Chen's as "improperly profit[ing] on the transmission reservation component of an Up-To Congestion transaction."[343]

In the *Black Oak* proceeding, the Commission made clear that its "determination here is based *solely on the record in this case* and the justification PJM has given for its allocation method."[344] As a result of the *Black Oak* proceeding, PJM proposed, and the Commission approved, a mechanism for distributing MLSA on the basis of, among other things, the volume of virtual trades – including UTC trades – that cleared and were associated with paid-for transmission reservations. Throughout the proceeding, the Commission repeatedly criticized volume-based virtual trading, i.e., trading increased volumes of virtuals in order to profit from greater MLSA distributions rather than from the "trading acumen" essential to profitable arbitrage. And throughout the proceeding, the Commission was repeatedly assured by the Financial Marketers that traders would only engage in virtual trades for price arbitrage and not for volume-based MLSA collection schemes. Although the Commission did not have occasion to address this issue again when it adopted the specific MLSA distribution procedure at issue here, its concern about volume trading necessarily applies equally to the subset of virtual trades that later became eligible for MLSA, namely UTC trades with paid transmission.

b. Fair Notice: *"Most UTC participants . . . perceived this as rank manipulation of the intended market function . . ."*[345]

As just discussed, Respondents claim that the Commission knowingly created incentives that formed the basis of their trading, and that they reasonably believed that their trading would be unobjectionable because the Commission intended to create these incentives. But the evidence demonstrates that Respondents knew that their trading subverted and undermined the Commission's purposes and that as soon as PJM or the Commission discovered their UTC trading strategy, they would immediately move to fix it and possibly require Respondents to pay back the revenues they received as a result of their strategy. Moreover, a minimum of due diligence would have disclosed that the Commission not only disapproved of this trading strategy in its particulars, but had previously disapproved of similar strategies in the past.

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transactions when they think they can profit from the difference between the day-ahead LMP and the real-time LMP they expect.").

[343] Mot. for Leave to Answ. and Answ. of Financial Marketers, *PJM Interconnection, L.L.C.*, Docket No. ER10-2280-000, at 3 (filed Sep. 14, 2010).

[344] *Black Oak Energy, LLC, et al. v. PJM Interconnection, L.L.C.*, 131 FERC ¶ 61,024, at P 41 (2010). (emphasis supplied).

[345] Email from Bob Steele to Kevin Gates (Aug. 20, 2010, 09:25 AM) (POW00001866).

Respondents contend that "[n]o express tariff provision, PJM pronouncement, or Commission order ever alerted Dr. Chen that it was unlawful to trade with the intent of profiting from transmission loss credits."[346] Consequently, Respondents argue that they lacked fair notice that the Commission would regard the scheme as manipulative and that enforcement action would therefore violate the Due Process clause of the United States Constitution.[347]

The fair notice doctrine generally prohibits the government from imposing civil penalties or sanctions without first providing fair notice to the regulatory public of what conduct is proscribed.[348] The Commission has previously explained that, with respect to fair notice, "regulations will be found to satisfy due process 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.'"[349] As discussed in greater detail above,[350] a reasonably prudent person, familiar with the conditions the Commission's Anti-Manipulation Rule was meant to address and the objectives it is meant to achieve, received "fair warning of what the regulations require" in light of the Commission's long history of viewing similar trading schemes and practices as manipulative. In fact, the behavior of market participants demonstrates this: market participants like Bob Steele and others refrained from attempting such schemes, and denounced them when they came to light. "Most UTC participants . . . perceived this as rank manipulation of the intended

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[346] Chen Submission at 6; Powhatan Submission at 27.

[347] *See* Chen Submission at 6-7; Powhatan Submission at 27; Chen 1b.19 Response at 1-6.

[348] *See generally* Albert C. Lin, *Refining Fair Notice Doctrine: What Notice Is Required of Civil Regulations?*, 55 BAYLOR L. REV. 991 (2003). It is unclear whether the fair notice doctrine, in the regulatory context, derives from the Constitution or from the Administrative Procedures Act. *Id*. at 998-1001.

[349] *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 also*, *Rock of Ages Corp. v. Sec'y of Labor*, 170 F.3d 148, 156 (2d Cir. 1999), *citing Walker Stone Co. v. Sec'y of Labor*, 156 F.3d 1076, 1083-84 (10th Cir. 1998) and *Stillwater Mining Co. v. Fed. Mine Safety & Health Review Comm'n*, 142 F.3d 1179, 1182 (9th Cir. 1998).

[350] *See* Section IV.B.2. (discussing similarities between Respondents' A-to-B/B-to-A credit collection strategy and Enron's A-to-B/B-to-A "Death Star" credit collection strategy) and Section IV.B.3. (explaining that Respondents' round trip UTC trades were – and were intended to be – functionally equivalent to wash trades, which the Commission has explicitly prohibited for years).

market function and had enough sense not to participate in this activity."[351] Of approximately 110 market participants involved in trading UTC in PJM during this period, only nine were investigated; three of these investigations were closed with no further action. Chen traded for three of the remaining six.

Respondents alternatively claim that they reasonably believed that the Commission actually granted its imprimatur to practices such as Respondents' scheme when it approved the PJM tariff change that rendered non-physical traders such as Respondents eligible for MLSA.[352] In essence, the argument contends that the Commission knew that there was a risk that traders would behave the way in which Chen did behave, and because the Commission approved the tariff change anyway, it follows that "the Commission arguably encouraged traders to do the very thing that Dr. Chen did."[353] That is not the case, as demonstrated by the fact that PJM, its IMM, and the Commission all acted immediately once they became aware of the conduct, and by the fact that Respondents expected this result.[354]

As discussed in detail above, PJM's mechanism for distributing MLSA was litigated in the *Black Oak* proceeding.[355] In that proceeding, the Commission provided PJM with broad guidelines and repeatedly and clearly emphasized both the goals to be achieved and the pitfalls to be avoided. The Commission repeatedly voiced its disapproval of precisely the sort of volume-based trading intended to capture MLSA that Respondents deployed, and insisted instead that profits from arbitrage must be based on "trading acumen in being able to spot price divergences between markets" rather than

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[351] Email from Bob Steele to Kevin Gates (Aug. 20, 2010, 9:25 AM) (POW00001866) *see also*, Testimony of Robert Steele (Apr. 7, 2011) Tr. 145:23-25 ("In my opinion, it was well outside the bounds of what was intended by PJM. I didn't care for it; I wouldn't engage in it; and we didn't").

[352] *See* Powhatan Supplemental Submission; Chen Response at 2-3; Powhatan Submission at 28.

[353] Powhatan Supplemental Response at 3.

[354] *See, e.g.*, Chao Chen Test. Tr. 96:24 – 97:3 ("Q: But you are concerned that it is a loophole and it is a poorly designed market and once PJM got up to speed on it, it would close that loophole and potentially retroactively claw back the credits? A: Yeah"), 100:3-5 ("we thought UTC was an opportunity that may go away soon because it is such a nice opportunity"); Email from Kevin Gates to Chao Chen et al. (Jun. 25, 2010, 09:09:23 PM) (POW00002438) ("I agree that UTC is a loophole that probably a dummy can exploit"); Email from Kevin Gates to Kevin Byrnes (Jul. 26, 2010, 05:01:02 PM) ("please keep it strictly confidential when talking with others that we're engaging the 'UTC' trade. Really just knowing about this inefficiency is our only edge.").

[355] *See* Section II.D.

from "the volume of their trades."[356] The Commission also emphasized that PJM's chosen distribution mechanism was only one of a variety of possibly just and reasonable approaches to addressing the marginal loss surplus.[357] Moreover, the administrative record contained no fewer than six assurances from the Financial Marketers coalition that virtual traders would "never" engage in volume-based trading to capture MLSA but would instead engage exclusively in legitimate Day-Ahead/Real-Time arbitrage based on trading acumen.[358] No party contradicted these assertions in any filing with the Commission, nor did any party defend volume-based MLSA capture strategies as legitimate. Throughout the proceeding, the Commission never wavered from the core principles it had announced, and Respondents cannot substantiate their suggestion that it did.

In hindsight, it is clear that the method PJM ultimately proposed did not mechanically eliminate the ability of unscrupulous financial traders to profitably target MLSA distributions with volume-based trading while insulating themselves from the price divergences between markets that are essential to bona fide arbitrage. Contrary to Respondents' suggestion, this is not because the Commission reversed its views. On the contrary, it is because the record provided the Commission with false comfort that such concerns were no longer germane.

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[356] *Black Oak Energy, LLC, et al. v. PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,208, at P 51 (2008) *and see* October 2008 Order at P 38, n.46 (expressing concern that, under the wrong structure, financial traders might "conduct trades simply to receive a larger credit"). PJM's view was quite similar:

> Financial Marketers only incentive to participate in PJM markets is to make money based on their analysis of whether there may be differences in the prices, however derived, in the Day-Ahead and Real-Time markets. *If there is no difference*, or adverse differences, *expected between the day-ahead and real-time price for a particular trade, then participants on a purely financial basis should not make that trade*.

Mot. for Leave to Answ. and Answ. of PJM, *Black Oak Energy, LLC, et al. v. PJM Interconnection, L.L.C.*, EL08-14-000 (filed Mar. 4, 2008) (emphasis supplied).

[357] *See, e.g.*, *Black Oak Energy, LLC et al. v. PJM Interconnection, L.L.C.*, 125 FERC ¶ 61,042, at P 49 (2008).

[358] The Commission was clear that it was basing its approval of PJM's proposal "solely on the record" before it. *Black Oak Energy, LLC, et al. v. PJM Interconnection, L.L.C.*, 131 FERC ¶ 61,024, at P 41 (2010).

It is unpersuasive to claim, as Respondents do,[359] that the Commission indicated its approval of schemes like Chen's simply because the Commission understood that a flawed MLSA distribution mechanism might incentivize traders to implement such schemes. Within the broad guidelines established by the Commission, PJM worked assiduously if unsuccessfully to craft an MLSA distribution mechanism that would prevent a scheme like Chen's from ever getting off the ground. The scheme that Respondents developed was not apparent to anyone when the Commission approved PJM's tariff change. Even an experienced UTC trader like Chen took several months of detailed analysis and experimentation to figure out how to exploit the MLSA distribution mechanism. And when PJM discovered the abuse and reported it to the Commission, it immediately took action to stop it.

As discussed in greater detail above, the scope of the Commission's anti-manipulation authority is not limited to those activities that are mechanically or otherwise proscribed by the express terms of a tariff. "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."[360] Failing to eliminate all opportunities to manipulate, or failing to mechanically prevent all manipulative trading schemes, does not mean that traders have *carte blanche* to devise and execute manipulative schemes not explicitly addressed by the existing tariff provisions.[361]

Finally, Respondents' arguments are contradicted by the facts unearthed in the investigation. The record is replete with evidence demonstrating that Respondents knew that they were exploiting a distribution mechanism "that nature shouldn't allow," and that they feared that when their scheme was discovered, they would be forced to disgorge the revenues they received from it.[362] The record also demonstrates that they deliberately

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[359] *See* Powhatan Supplemental Submission; Chen Response at 2-3; Powhatan Submission at 28.

[360] *Richard Silkman*, 144 FERC ¶ 61,164, at P 50 (2013) (citations omitted).

[361] *Richard Silkman*, 144 FERC ¶ 61,164, at P 48 (2013) ("even assuming, *arguendo*, that certain features of DALRP . . . left the DALRP vulnerable to certain manipulation, that does not excuse the manipulation itself.") *and see*, *In re Make Whole Bidding Payments and Related Strategies*, 144 FERC ¶ 61,068 (2013) (imposing civil penalties by settlement for conduct not specifically proscribed or mechanically prevented by tariff).

[362] *See* Email from Kevin Gates to Kevin Byrnes (Jul. 26, 2010, 05:01:02 PM) ("please keep it strictly confidential when talking with others that we're engaging the 'UTC' trade. Really just knowing about this inefficiency is our only edge."); Email from Kevin Gates to Larry Eiben, et al. (Aug. 19, 2010, 06:41:54 PM) (POW00006665) (describing Chen's trading as exploiting a loophole); Email from Kevin Gates to Alan Chen (Mar. 5, 2010 at 03:59:47 PM) (POW00016981) (recognizing that they could be forced to pay back their MLSA revenues).

chose not to consult with PJM or Commission staff.[363] This reflects a failure of due diligence, not a failure of due process.

c. SEC Precedent

Respondents argue that their scheme is legal because, they claim, it would not have been unlawful under the securities laws.[364] This is incorrect. UTCs do not exist in the securities markets, nor do Respondents identify any products in those markets that are equivalent in relevant respects. Unable to identify any equivalent product in securities markets, Respondents also cannot point to any SEC precedent approving conduct that is similar to their own. And even if there were such an SEC precedent, it would not necessarily be controlling here.

Although the anti-manipulation provision of EPAct 2005 points to section 10(b) of the Securities Exchange Act in certain respects, securities law precedent cannot be incorporated wholesale or without regard to FERC precedent and the important differences between the securities markets and the markets regulated by this Commission; instead securities precedent must often be adapted to apply to the energy markets.[365] The Commission has long recognized this. As stated in Order No. 670, consistent with the statute's reference to section 10(b) of the Securities Exchange Act, the Commission will "adapt analogous securities precedent as appropriate to specific facts, circumstances, and situations that arise in the energy industry."[366] Thus, in the *Barclays* order, the Commission noted that it "need not automatically apply" such precedent "completely or in part, but rather must look to our industry to determine what is

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[363] Email from Kevin Gates to Alan Chen (Mar. 5, 2010 at 3:59:47 PM) (POW00016981) ("why not contact a law firm, the FERC or PJM to try to get more insight into this issue") *and see*, n.116, *supra*.

[364] *See* Powhatan Submission, Wallace Aff.; Powhatan 1b.19 Response, Larry Harris Statement, Jeffrey H. Harris Report, Hendershott Statement, Aff. of Stewart Mayhew, Report of Chester S. Spatt (Spatt Report).

[365] The wholesale energy markets are substantially different from the securities markets. The primary duty of the SEC – to ensure full and accurate public disclosure of company information so that all market participants trade as equals – is far different from the Commission's statutory responsibility to ensure that rates for electric energy are just and reasonable. Moreover, the types of manipulative schemes seen in the securities markets are sometimes very different than those seen in the power markets. Insider trading is an important issue in securities markets, for example, but is rarely if ever a significant issue in energy markets. Conversely, the complex tariff provisions that govern trading in organized energy markets such as PJM do not appear to have any direct analog in securities markets.

[366] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 30.

appropriate."[367] There the Commission explained the role of SEC precedent in analyzing alleged violations of the Anti-Manipulation Rule:

> In Order No. 670 we recognized that we would not be rote in our application of securities law to the energy markets and would apply such precedent on a case-by-case basis as "appropriate under the specific facts, circumstances, and situations in the energy industry." . . . . The energy industry is not in all ways equivalent to the securities industry. Moreover . . . our statutory mandate, unlike that of the SEC, is to ensure that rates for jurisdictional transactions are just and reasonable.[368]

Order No. 670 noted that principles already applied by the SEC would "provide useful guidance as the Commission develops its own body of precedent to follow."[369] But the Commission has developed its own body of precedent over the past several years, and it is necessary to look at that precedent first. Of course, securities precedent continues to be instructive on a case-by-case basis to the extent the salient features of that precedent are truly analogous.[370]

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

[368] *Id.* (citations omitted). *See also*, *BP America Inc., et al*., 147 FERC ¶ 61,130, at P 37 (2014) (noting that the Commission is not "limited to pursuing only claims based on legal theories explicitly 'adopted' by the Securities and Exchange Commission, or on fact patterns already round in pre-existing securities precedent to violate Rule 10b-5 or the Securities Exchange Act of 1934 . . . . The Commission's enforcement mandate also extends to novel schemes and manipulative devices that effect prices in, or otherwise interfere with, well-functioning markets, and not just the tried-and-true schemes and devices that have already been the subject of securities fraud actions.")

[369] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 28 *and see* P 31 (same).

[370] Respondents' other arguments about practices in SEC-regulated markets are unpersuasive because they fail to establish that the pertinent features of those practices are analogous to their own conduct. They contend, for example, that based on a "Concept Release" issued by the SEC in 2010, the Commission is bound to approve their round trip trades, in which they diverted to themselves millions of dollars that would otherwise have gone to other PJM market participants. *See* Powhatan Submission at 6-7, *citing Concept Release on Equity Mkt. Structure*, 75 Fed. Reg. 3594 (Jan. 21, 2010). But even in the completely different factual context discussed in that Release, the SEC did not endorse any specific high frequency trading practices, much less any that are analogous to Respondents' round trip trades. In fact, the *Concept Release* is simply a request for comments about an array of practices, not a determination that any of them are lawful. In any event, this Commission's statutory obligation to prevent manipulation of the wholesale energy markets is not constrained by the views of a different agency

One analogous SEC precedent is *In re Amanat*,[371] which the Commission has cited in prior orders.[372] In *Amanat*, the SEC, affirmed by the Third Circuit, determined that it is manipulative under Rule 10b-5 to execute sham trades designed to avoid the effects of price changes due to market forces. *Amanat* involved a trader seeking to capitalize on a program in which a market data firm paid NASDAQ and its market participants who engaged in high-volume trading. In order to ensure he satisfied the minimum volume of trading required to be paid by the market data firm, Amanat conducted thousands of sham trades within a few days employing a computer program that automatically bought and sold the same securities within a very short time period. These trades netted to zero sales and acquisitions, but NASDAQ paid Amanat based on the trade volume. The SEC held that Amanat had committed fraud within the meaning of Rule 10b-5 through this conduct.[373]

Similar in relevant ways to *Amanat*, Chen designed his sham UTC transactions to create the false appearance of bona fide trades but in fact were designed to neutralize his exposure to market prices and profit simply from ramped-up trading volume. In *Amanat*, the trader received a monetary payment for his inauthentic trades that lacked independent value. The SEC found deceptive conduct based on an implicit representation that the transactions were bona fide.[374]

Like the trader in *Amanat*, Chen paired his round trip UTC transactions in order to "wash" returns or losses due to changes in the price spread of each UTC transaction in the pair. By making the trades, Chen implicitly signaled to the market that he did so for the sake of its potential profit from market price movements, but his real purpose was the opposite: to insulate his trades from the effects of price changes. And, as in *Amanat*, Chen had an ulterior purpose for his manipulative trades: just as the trader in *Amanat*

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charged with enforcing a different set of laws and regulations in a fundamentally different factual context.

[371] *In re Amanat*, 89 S.E.C. Docket 672, Admin. Proc. File No. 3-11813, 2006 WL 3199181, at *1-7 (SEC Nov. 3, 2006), *aff'd mem. sub nom. Amanat v. SEC*, 269 Fed. App'x 217 (3d Cir. 2008) (footnotes omitted).

[372] *See In re PJM Up-To Congestion Transactions*, 142 FERC ¶ 61,088, at n.1 (2013); *see also In re Make Whole Payments and Related Bidding Strategies*, 144 FERC ¶ 61,068, at P 84 (2013).

[373] *Amanat,* 2006 WL 3199181, at *7-10.

[374] *Amanat,* 2006 WL 3199181, at *7. *See also Stoneridge Investment Partners v. Scientific-Atlanta, Inc*., 552 U.S. 148, 158 (2008) ("If [the appellate court's] conclusion were read to suggest there must be a specific oral or written statement before there could be liability under § 10(b) or Rule 10b-5, it would be erroneous. Conduct itself can be deceptive, as respondents concede.").

increased his trade volume in order to reap payments from the exchange, Chen traded large volumes of deceptive UTC transactions to reap large MLSA payments.

Respondents' attempts to distinguish *Amanat* or diminish its relevance are not persuasive.[375] They contend that Amanat's trades were more deceptive than Chen's,[376] and that the "rebates" for the purpose of which Amanat executed his trades were more remote from and extrinsic to the trades than Chen's.[377] Neither proffered distinction is persuasive. They also contend that the Commission's approval of PJM's proposal to distribute MLSA to UTC transactions associated with paid-for transmission implied to Respondents that such trades were perfectly permissible. For the reasons discussed at length above, that argument also has no merit.[378]

In sum, Respondents have failed to identify any SEC precedent in which transactions similar in relevant respects to Respondents' round trip UTC trades were blessed by the SEC. As discussed above, however, there is Commission precedent in which transactions similar to Respondents' round trip trades were executed in a similar manner, in a similar context, for similar purposes, and were explicitly condemned by this Commission.

5. Conclusion: Respondents' Round-Trip UTC Trades Were a Manipulative Scheme.

Respondents' round-trip UTC strategy was a manipulative scheme. It bears all the indicia of a manipulative scheme: The trades were uneconomic on their own merits; they were insulated from and undisciplined by market forces; and they differed sharply from Chen's non-manipulative UTC trades. They were intended to deceive – and did deceive – PJM. Like Enron's "Death Star" and other notorious trading strategies, the trades captured millions of dollars through that deception. Finally, the round-trip UTC trades were functionally equivalent to wash trades – they are simply a variation of that practice employing a novel product – and the Commission long ago identified wash trading as a prohibited manipulative strategy.

Respondents' defenses are implausible and unpersuasive. Their proffered "home run" strategy cannot be squared with the facts, nor can their suggestion that the Commission approved of the round-trip UTC strategy be squared with what actually happened in the *Black Oak* proceeding. Finally, the Commission's disapproval of

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[375] *See, e.g.*, Powhatan Submission at 22-26; Chen Response to Preliminary Findings at 6-7.

[376] Chen Response to Preliminary Findings at 7; Jeffrey H. Harris Report at 5-6; Mayhew Aff. ¶¶ 102-119.

[377] Chen Response to Preliminary Findings at 7; Powhatan Submission at 24.

[378] *See* Sections IV.B.4.a. and IV.B.4.b.

schemes like the round-trip UTC strategy is so well-established by precedent that there is little question that – had they done the legal digging that Gates urged and then abandoned – they would have learned what other market participants seemed overwhelmingly to know, namely, that this conduct was prohibited.

C. Scienter: "these rebates are encouraging the wrong behavior"[379]

Scienter is an element of manipulation. The Commission recently explained that, "[f]or purposes of establishing a violation, scienter requires knowing, intentional, or reckless misconduct, as opposed to mere negligence."[380] The scienter element is satisfied here, because, as the evidence demonstrates, Chen (and hence HEEP and CU Fund) knew that the scheme manipulated PJM's rules; intentionally implemented the scheme for the pecuniary benefit of himself and the other Respondents; knew that there was a substantial risk that all of the scheme's profits would be clawed back when it was discovered; and he communicated the essential details of his scheme to Gates. Gates and Powhatan understood the essential details of the scheme; endorsed and approved it; understood (but chose not to look into) the legal risks associated with it; reaped millions of dollars in unjust profits from it; and expected those outsized profits would come to an end as soon as their scheme was discovered. The scienter element, therefore, is satisfied.[381]

Respondents argue that they did not have scienter because "to have specific intent to manipulate the market, the participant must design his actions to deceive or defraud the market."[382] Respondents contend that Chen "accurately entered the information necessary to effect the transactions, which were carried out openly: he did not attempt to hide, conceal or misrepresent anything to anyone."[383] According to this argument, Chen's trades represented a rational response to price signals, and thus Respondents "had no way of knowing that responding to the incentives created by the TLCs could be considered prohibited conduct."[384] Respondents thus conclude, "[t]hat is the beginning and the end of the scienter analysis: because Powhatan and Dr. Chen had a legitimate

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379 K. Gates Test. Vol. II Tr. 215:17-25.

380 *Barclays*, 144 FERC ¶ 61,041 at P 62.

381 *See, SEC v. U.S. Environmental, Inc.*, 155 F.3d 107, 111 (2d Cir. 1998) (noting that, in the SEC context, "[i]t is well-settled that knowledge of the proscribed activity is sufficient scienter under § 10(b).") (citations omitted).

382 Chen Submission at 24, citing *Blumenthal v. ISO New England*, 132 FERC ¶ 63,017, at P 108 (2010); Powhatan Submission at 7-8, quoting *Ernst & Ernst v. Hochfelder*, 425 U.S. 185, 193 n.12 (1976).

383 Powhatan Submission at 13.

384 Powhatan Supplemental Response at 7-8.

economic purpose for their [t]rades, there is no way that the Commission could ever meet its burden of proving scienter."[385] Respondents are wrong.

Before they implemented their manipulative strategy, Chen and Gates knew that the purpose of UTC trading was to arbitrage price differentials. They also knew that targeting MLSA was legally risky.[386] They expected that as soon as it was discovered, they would likely have to repay their ill-gotten gains.[387] They knew that they should "contact a law firm, the FERC, or PJM to try to get more insight into this issue."[388] Yet they decided not to do so – presumably for fear that they would learn something that might prevent them from making "ridiculous money"[389] and "becom[ing] rich" from the round trip trading.[390] Chen developed his UTC wash trading strategy for the purpose of eliminating real price risk from his UTC transactions to reliably collect MLSA in large volumes.[391] Early in the relationship, Gates made clear that "we could definitely never really ramp up . . . without knowing the strategy intimately."[392] They did ramp up.[393]

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[385] Powhatan Submission at 9.

[386] *See, e.g.*, Email from Kevin Gates to Alan Chen (Mar. 5, 2010 at 3:59:47 PM) (POW00016981) ("why not contact a law firm, the FERC or PJM to try to get more insight into this issue"); Email from Kevin Gates to Richard Gates, et al. (Mar. 5, 2010, 5:34:51 PM) (POW00007936) (proposing to have "an attorney, or someone, really dig into the TLCs on the UTC trade"), *and see Indianapolis Power & Light Co., Op. No. 328*, 48 FERC ¶ 61,040, *reh'g granted on other grounds*, 48 FERC ¶ 61,328 (1989). In *Indianapolis Power & Light*, IP&L relied upon its own interpretation of the Commission's accounting rules with which the Commission ultimately disagreed. The Commission noted that IP&L could have sought clarification and, in declining to do so, "accept[ed] the risk" of subsequent Commission disapproval and therefore "cannot . . . escape the consequences of its decision." *Id*. at 61,202.

[387] *See, e.g.*, Email from Alan Chen to Kevin Gates (Mar. 5, 2010, 11:28 AM) (POW00016981) (noting they could be "in big trouble").

[388] Email from Kevin Gates to Alan Chen (Mar. 5, 03:59:47 PM) (POW00016981) *see also*, Email from Kevin Gates to Richard Gates et al. (Mar. 5, 2010, 05:34:51 PM) (POW00007396).

[389] Email from Kevin Gates to Alan Chen (Jun. 9, 2009, 03:08:10 PM) (POW00017242).

[390] Email from Kevin Gates to Richard Gates, et al. (Feb. 26, 2010, 08:20:52 AM) (POW00007907).

[391] Chen Test. Vol. I Tr. 40:17-18 (purpose to eliminate spread risk).

[392] Email from Kevin Gates to Alan Chen (Jun. 9, 2009, 04:08:10 PM) (POW00017242). The email references a possible trading multiplier of 30:1 as the ultimate outer bound of potential multipliers. They never reached that, but the 20:1

Gates knew that Chen was attempting to "eliminate" risk from his trades by "going from A to B – B to A."[394] Both understood that the strategy was to "make money by moving electricity around in a circle."[395] Both knew that the trade "was just a loophole that anyone who knows about it can exploit"[396] and that Chen was, in fact, "exploiting" it[397] with Gates' enthusiastic support[398] by engaging in trades they thought probably should not have been allowed[399] and that constituted what they knew was "the wrong behavior."[400]

D. Jurisdiction

Chen's round-trip UTC transactions are within the Commission's FPA jurisdiction for at least two reasons. First, the Commission has well-established authority to regulate non-physical transactions that have the potential to affect the price of physical electricity, such as Chen's UTC trades in PJM.[401] Second, the Commission has jurisdiction over

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multiplier reflected in the Powhatan Advisory Agreement is much closer to 30:1 than it is to the original 4:1 multiplier of the TFS/Huntrise Advisory Agreement.

[393] *See* "Rampin' Up with Alan Chen" (POW00008003).

[394] K. Gates Test. Vol. II Tr. 178:12-15. *See In re San Diego Gas & Elec. Co.*, Comm. Fut. L. Rep. (CCH) ¶ 31,549, 2010 WL 1638992 (CFTC Apr. 22, 2010) (finding the scienter requirement for wash trades to be satisfied where "the customer intended to negate market risk or price competition").

[395] Email from Kevin Gates to Alan Chen (Aug. 12, 2010, 4:18 PM) (POW00004685).

[396] Email from Chao Chen to Richard Gates (Jun. 25, 2010, 20:48:49) (POW00002438); *and see* Email from Kevin Gates to Kevin Byrnes (Jul. 26, 2010, 05:01:02 PM) ("just knowing about this inefficiency is our only edge").

[397] Email from Kevin Gates to Larry Eiben, et al. (Aug. 19, 2010, 06:41:54 PM) (POW00006665).

[398] *See* Email from Kevin Gates to Larry Eiben, Chao Chen et al. (Jun. 25, 2010, 09:09:23 PM) (POW00002438) (stating his intention to "drive a truck thru that loophole").

[399] Chao Chen Test. Tr. 75:5-6.

[400] K. Gates Test. Vol. II Tr. 215:17-25.

[401] *E.g.*, *Black Oak Energy, LLC v. FERC*, 725 F.3d 230, 239 (D.C. Cir. 2013) ("[virtual trades] *contribute to the fluctuation of the market price*, which in turn influences whether load-serving entities (the technical name for market participants who actually traffic in electricity) will purchase electricity at a given time."); *California Independent System Operator Corp.*, 110 FERC ¶ 61,041, at P 31 (2005) ("since

Chen's UTC trades based on his reservation and purchase of transmission on the OASIS system.

In his 1b.19 Response, Chen challenges the Commission's jurisdiction over UTC trading. Chen contends that "[t]he up-to congestion trades at issue here were purely financial transactions, and thus are not jurisdictional sales of physical power."[402] Therefore, Chen, concludes, because the UTC transactions did not result in the physical delivery or transmission of power, they cannot be jurisdictional.[403]

The Commission has explicitly stated that virtual trading of INCs and DECs are "integral" to the sound operation of the wholesale markets.[404] In rejecting a direct challenge to the Commission's jurisdiction over convergence bidding, (the California ISO's term for virtual trading), the Commission explained:

> Section 205 of the Federal Power Act gives the Commission the authority and responsibility to ensure that rates for jurisdictional power sales are just and reasonable. The Commission also has jurisdiction over practices that affect those rates. Since convergence 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.[405]

Even if UTCs were not themselves jurisdictional (which they are, as discussed above), the Commission would have jurisdiction over them, because they are "in connection with" jurisdictional transactions within the meaning of Section 222 of the FPA.[406] In that vein, the Commission has explained that its anti-manipulation authority reaches even non-jurisdictional transactions:

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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").

[402] Chen 1b.19 Response at 17.

[403] *Id*. at 17-18.

[404] *California Independent System Operator Corp*., 108 FERC ¶ 61,254, at P 74 (2004).

[405] *California Independent System Operator Corp*., 110 FERC ¶ 61,041, at P 31 (2005) (footnote omitted).

[406] *See* 16 U.S.C. § 824v(a) ("It shall be unlawful for any entity . . . directly or indirectly, to use or employ, *in connection with* the purchase or sale of electric energy or the purchase or sale of transmission services subject to the jurisdiction of the

> [A]ny entity engaging in a non-jurisdictional transaction through a Commission-regulated RTO/ISO market, that acts with intent or with recklessness to affect the single price auction clearing price (which sets the price of both non-jurisdictional and jurisdictional transactions), would be engaging in fraudulent conduct in connection with a jurisdictional transaction and, therefore, would be in violation of the Final Rule [adopting Part 1c].[407]

Since UTCs are created by a Commission-approved tariff and traded through a Commission-regulated RTO market, and since they affect the price of jurisdictional transactions, the Commission has anti-manipulation authority with respect to the trading of UTCs.

In addition, the transmission reservation component of UTC transactions alone is enough to bring UTCs themselves within the ambit of Commission jurisdiction. The Commission's jurisdiction over transmission is extremely broad.[408] At the time of the transactions at issue in this proceeding, all UTCs were required by the PJM Operating Agreement to be associated with a reservation for transmission service.[409] PJM explained that "this transmission service requirement . . . served as the physical link between the Day-ahead Energy Market and the Real-time Energy Market transactions."[410] This "physical link," had consequences for physical transmission even if the market participant reserving it elected ultimately not to use that transmission reservation to flow electric energy, in that it reduced (albeit temporarily) the amount of transmission capacity available for all transactions, including physical ones. In light of the Commission's expansive jurisdiction over transmission, the impact of Chen's trading on transmission brings UTCs within that jurisdiction.

In sum, the UTC trading at issue in this case is jurisdictional: it involved the reservation of jurisdictional transmission services; it was integral to the settlement of PJM's jurisdictional Day-Ahead market and hence to the pricing and dispatch of physical energy; the Commission's exercise of jurisdictional authority to regulate such trading has

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Commission, any manipulative or deceptive device or contrivance . . .") (emphasis supplied).

[407] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 22.

[408] *See New York v. FERC*, 535 U.S. 1 (2002) (FERC has jurisdiction over the entire transmission grid, not merely transmissions at wholesale in interstate commerce.)

[409] PJM Operating Agreement Schedule 1, Section 1.10.1(b), Fourth Revised Sheet No. 335 (superseded, Sept. 17, 2010).

[410] Submission of Proposed Revisions to PJM Operating Agreement and Attachment K – Appendix to PJM OATT, *PJM Interconnection, L.L.C.*, Docket No. ER10-2280-000, at 8 (filed Aug. 18, 2010) (PJM Proposed Revisions).

long been established; and the trading involved the reservation of transmission, over which the Commission has broad authority, and which provided the "physical link" between the Day-Ahead and Real-Time markets.

V. Liability

The Commission has two means of imposing monetary remedies in response to a violation of the Anti-Manipulation Rule. The Commission can – and generally does – order disgorgement of unjust profits pursuant to its plenary authority in Section 309 of the FPA, and it can order the imposition of civil penalties pursuant to its civil penalty authority in Section 316A of the FPA. Both approaches are appropriate here, as Respondents were unjustly enriched by their scheme and because "civil penalties are an important tool to achieve compliance."[411]

The penalties recommended below are well within the Commission's statutory authority to impose penalties of up to $1,000,000 per day per violation.[412] The Commission's longstanding practice in assessing penalties is to focus on the two statutorily-mandated factors: (1) efforts to remedy the violation and (2) seriousness of the violation.[413] The first factor is easily addressed: Respondents made no effort whatsoever to remedy the violation and indeed persisted in their conduct until PJM and its Market Monitor moved to stop it.[414] As for the second factor, the violations were

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[411] *Enforcement of Statutes, Orders, Rules, and Regulations*, 132 FERC ¶ 61,216, at P 112 (2010) (Revised Policy Statement on Penalty Guidelines) *and see id.* P 216 ("The Commission has always required disgorgement in addition to the assessment of civil penalties.")

[412] FPA Section 316A, 16 U.S.C. § 825*o*-1(b). Courts will uphold even "severe" sanctions within statutory limits. *See Sundheimer v. CFTC*, 688 F.2d 150, 153 (2d Cir. 1982). Given that HEEP and Powhatan executed manipulative round trip UTC trades on 64 days and CU Fund on 16, at $1 million per day of violations (to say nothing of the number of specific violations on those days), the statutory limits for civil penalties are vastly greater than those proposed here.

[413] Revised Policy Statement on Penalty Guidelines, 132 FERC ¶ 61,216, at P 16 (2010); *Enforcement of Statutes, Regulations, and Orders*, 123 FERC ¶61,156, at P 51 (2008) (Revised Policy Statement on Enforcement).

[414] In fact, the evidence indicates that Gates wished to continue the conduct even after he learned it had brought them under scrutiny. *See* Email from Kevin Gates to Richard Gates, et al. (Aug. 2, 2010, 01:12:36 PM) (POW00004041), and Email from Kevin Gates to Alan Chen (Aug. 12, 2010, 4:18 PM) (POW00004685).

extremely serious.[415] Respondents not only siphoned millions of dollars out of the PJM market, where the money would have been allocated to bona fide transactions, but also created risks to the integrity of the Day-Ahead market because the scheme had the potential both to affect Day-Ahead prices and dispatch and to crowd out the efforts of other market participants to schedule transmission for their legitimate transactions.

One measure of the seriousness of Respondents' scheme was the fact that their manipulative trades constituted a disproportionate share of volume in the nation's largest RTO. Respondents' scheme to intentionally defraud the PJM market persisted for months, involved the reservation of more than 16.5 *million* MWh of transmission, and resulted in the misallocation of over $10 million of MLSA. As detailed above, Respondents' scheme was manipulative and deceitful. They perpetrated a fraud on the nation's largest organized wholesale energy market in violation of section 1c.2 of the Commission's regulations. Respondents' scheme was designed to deceive PJM, it was willful, it was executed with the full knowledge and support of both Chen and Gates, and it was not inadvertent or merely erroneous. Far from being isolated occurrences, Respondents' violations were central to their business plan, and resulted from deliberate, systematic, and persistent wrongdoing.

Mitigating factors are minimal. Although Respondents have cooperated adequately with the investigation, they have not accepted responsibility for their actions, did not self-report the violations, were not relying on advice from PJM or Commission staff, and had no compliance program in place at the time of the violations. In fact, as discussed above, despite knowing that their scheme was highly questionable, Respondents declined to seek counsel that would have informed them conclusively that their scheme was improper and illegal.

In sum, Enforcement staff believes that Respondents' conduct warrants the imposition of significant financial penalties to create appropriate deterrence for other market participants who might otherwise consider embarking on similarly manipulative gaming of RTO markets.

A. Chen and the Chen Entities

1. Disgorgement.

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[415] *See* Section IV.B.2-3 (noting the role similar manipulative activities played in exacerbating the market dysfunctions precipitating the Western Energy Crisis) *see also*, *In re San Diego Gas & Elec. Co.*, Comm. Fut. L. Rep. (CCH) ¶ 31,549, 2010 WL 1638992 (CFTC Apr. 22, 2010) ("[w]ash sales are 'grave' violations, even in the absence of customer harm or appreciable market effect") (*citing In re Piasio*, Comm. Fut. L. Rep. (CCH) ¶ 28,276 at 50,691 (CFTC Sep. 29, 2000), *aff'd sub nom. Wilson v. CFTC*, 322 F.3d 555, 559 (8th Cir. 2003).

Where an entity has committed a violation resulting in pecuniary gain, the Commission directs disgorgement of the full amount of the gain plus interest.[416] Through Chen's manipulative UTC wash trading scheme, CU Fund and HEEP Fund received approximately $1,784,145 and $398,770 respectively, in MLSA. Netting out the transaction costs of these fraudulent trades, CU Fund and HEEP received approximately $1,080,576 and $173,100 in unjust profits, respectively, for wash-type round trip UTC trades between June 1 and August 18, 2010. Staff recommends that these entities be ordered to disgorge those amounts, with interest. Staff believes that it is appropriate to hold Chen, CU Fund, and HEEP Fund jointly and severally liable for disgorgement of unjust profits accruing to HEEP and CU Fund.

2. Civil Penalty.

Section 2B1.1 of the Commission's Penalty Guidelines apply to HEEP and CU Fund. Manipulative trades executed on behalf of HEEP Fund exceeded 100,000 MWh and yielded $173,100 in unjust profits. Manipulative trades executed on behalf of CU Fund exceeded 100,000 MWh and yielded $1,080,576 in unjust profits. Both entities cooperated with the investigation. Applying the Penalty Guidelines, therefore, staff recommends a penalty of $1,920,000 for HEEP Fund and $10,080,000 for CU Fund. In light of the collusion between them, staff believes it is appropriate to hold Powhatan and HEEP jointly and severally liable for the penalties against HEEP.

The Penalty Guidelines do not apply to individuals. Consistent with Commission precedent, staff recommends that the Commission impose a civil penalty of $500,000 on Chen for his acts on behalf of HEEP and Powhatan and another $500,000 for his acts on behalf of CU Fund. Chen knowingly devised and implemented the manipulative scheme designed to deceive PJM into awarding MLSA to the entities on behalf of which Chen traded. The violations were not isolated, but persisted over months and ceased only after PJM's IMM requested that they be discontinued. Chen's actions harmed the integrity of the regulatory process and PJM's market; they were designed to deceive PJM, without regard for the possible deleterious impacts on the market; and they were undertaken deliberately. Chen cooperated with the investigation, but did not self-report his manipulative trading and undertook no efforts to mitigate the harm from his violations. Taken as a whole, therefore, staff believes that the recommended penalty is appropriate.

In his 1b.19 Response, Chen argues that the Commission lacks statutory authority to penalize individuals like him.[417] This is not only incorrect, it amounts to an

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[416] *See* Revised Penalty Guidelines at §1B.1(a); Revised Policy Statement on Enforcement, 123 FERC ¶61,156, at P 43 (2008) ("Requiring disgorgement is consistent with long-standing Commission practice and the practice of other enforcement agencies . . .") (citations omitted).

[417] Chen 1b.19 Response at 18-19.

impermissible collateral attack on prior Commission orders. The Commission has already found that its statutory anti-manipulation authority extends to individuals such as Chen. In Order No. 670, the Commission explained:

> "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.[418]

The Commission has subsequently affirmed this interpretation, finding that it has jurisdiction to seek civil penalties from individuals. Just last year, the Commission held:

> We find that 18 C.F.R. § 1c.2 reaches Dr. Silkman's conduct in this case and that the Commission has jurisdiction over Dr. Silkman [an individual] for purposes of enforcing 1c.2. Section 1c.2 makes it unlawful for "any entity, directly or indirectly" to engage in fraudulent activities "in connection with" a transaction subject to the Commission's jurisdiction. The phrase "any entity" is broad, and applies to any person such as Dr. Silkman who had both direct and indirect involvement in, and profited in connection with [manipulative jurisdictional transactions].[419]

The Commission has already determined that it has authority to impose civil penalties on individuals such as Chen. Where, as here, it is appropriate to impose a civil penalty on an individual, the Commission should do so.

B. Powhatan

1. Disgorgement

Through Chen's manipulative wash-type round trip UTC trading scheme during June 1 to August 18, 2010, Powhatan received approximately $7,975,403 in MLSA. Netting out the costs of these fraudulent transactions, Powhatan yielded approximately $3,465,108 in unjust profits. Staff recommends that Powhatan be ordered to disgorge this sum, with interest. Staff believes that it is appropriate to hold Powhatan, HEEP, and Chen jointly and severally liable for disgorgement of unjust profits accruing to Powhatan.

2. Civil Penalty

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[418] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 18 (citations omitted) *see also*, *City of Abilene v. FCC*, 164 F.3d 49, 52 (D.C. Cir. 1999) ("any entity . . . may include a natural person").

[419] *Richard Silkman*, 144 FERC ¶ 61,164, at P 73 (2013) (internal citations omitted). Review of this Civil Penalty Assessment order is pending in federal district court for the District of Massachusetts in No. 13-CV-13054.

Section 2B1.1 of the Commission's Penalty Guidelines applies to Powhatan. Manipulative trades executed on behalf of Powhatan exceeded 100,000 MWh and yielded $3,465,108 in unjust profits. Powhatan cooperated with the investigation. Applying the Penalty Guidelines, therefore, staff requests a penalty of $16,800,000. In light of the collusion between them, Enforcement staff believes that it is appropriate to hold Powhatan and HEEP jointly and severally liable for the penalties against Powhatan.

VI. Conclusion

For the reasons discussed above, Enforcement staff recommends that the Commission direct Respondents to show cause why they have not violated section 1c.2 of the Commission's regulations, which prohibits the manipulation of markets in wholesale electricity. Enforcement staff further recommends the Commission direct CU Fund, and Alan Chen to show cause why, for these violations, they should not be assessed civil penalties of $10,080,000 and $500,000, respectively, and be required to disgorge $1,080,576 plus interest in unjust profits. Finally, Enforcement staff recommends that the Commission direct Powhatan and HEEP Fund to show cause why, for these violations, they should not, jointly and severally, be assessed civil penalties in the amounts of $16,800,000 to Powhatan, $1,920,000 to HEEP Fund, and an additional $500,000 civil penalty to Chen, and to be required to disgorge profits, plus interest, of $3,465,108 from Powhatan, and $173,100 from HEEP Fund.