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

[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.

<u>The Commission orders:</u>

(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 loop-hole. 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

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.

[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.