127 FERC ¶ 61,007
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Jon Wellinghoff, Chairman;
Suedeen G. Kelly, Marc Spitzer,
and Philip D. Moeller.

PJM Interconnection, L.L.C. Docket No. EL08-44-000

v.

Accord Energy, LLC
BJ Energy, LLC
Franklin Power, LLC
GLE Trading, LLC
Ocean Power, LLC
Pillar Fund, LLC
Power Edge, LLC
Tower Research Capital, LLC
Tower Research Capital Investments, LLC

ORDER DENYING COMPLAINT IN PART

(Issued April 2, 2009)

1. On March 7, 2008, PJM Interconnection, L.L.C. (PJM) filed a complaint against Accord Energy LLC, BJ Energy LLC, Franklin Power LLC, GLE Trading LLC, Ocean Power LLC, Pillar Fund LLC, Power Edge LLC (Power Edge), Tower Research Capital LLC, and Tower Research Capital Investments LLC (collectively, Tower Companies). PJM alleges that the Tower Companies manipulated PJM's Day-ahead energy and Financial Transmission Rights (FTR) markets. In its April 31, 2008 Order,[1] the Commission directed its Office of Enforcement (OE) to conduct an investigation under 18 C.F.R. § 1b.5 (2008) and to report its findings to the Commission at the conclusion of its investigation.

2. Although the OE investigation remains ongoing, OE has completed its investigation with respect to two of the several allegations made by PJM in its complaint,

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[1] *PJM Interconnection, LLC., v. Accord Energy, LLC et. al.*, 123 FERC ¶ 61,103 (2008).

and filed the attached interim report which is made part of the record in this proceeding. The first complaint allegation addressed in the report is that certain Tower Company affiliates perpetrated a fraud upon PJM by entering into coordinated, offsetting positions in the market for FTRs, concentrating high-risk or losing positions in one affiliate, Power Edge, and deliberately causing Power Edge to default on its obligations by saddling it with these positions, and hedging its risk in its more profitable affiliates rather than Power Edge. The second complaint allegation addressed in the report is that Power Edge was deliberately under- or de-capitalized in order to trigger its collapse. Other allegations and issues raised by, or related to, the PJM Complaint remain under investigation and thus are not addressed in the attached report.[2]

3. Regarding the two complaint allegations, OE reports that it found insufficient evidence of manipulation to support finding of a violation of the Commission's regulations, 18 C.F.R § 1c.2 (2008).

4. For PJM's complaint of market manipulation to succeed, three elements must be shown: (1) a scheme or artifice to defraud, (2) made with scienter, and (3) in connection with a transaction subject to the jurisdiction of the Commission.[3] PJM's claims with respect to the two allegations addressed by the OE report, as discussed above, do not rise to the level of a violation of 18 C.F.R. § 1c.2. (2008), because PJM provided, and OE found, no evidence that the Tower Companies' dealings with PowerEdge constituted a scheme or artifice to defraud made with the requisite scienter.[4] As a result we will take no further action regarding these instances of PJM's allegations of market manipulation.

5. Since the remaining allegations are still under investigation, the Commission will address any outstanding issues in a later order.

[2] These include PJM's allegation in the complaint that Tower affiliates placed increment and decrement bids in the Day-Ahead market for the purpose of increasing congestion on certain transmission paths, thereby benefiting another Tower affiliate's FTR positions. PJM Complaint at 6-7.

[3] 18 C.F.R. § 1c.2 (2008); *Prohibition of Energy Market Manipulation,* Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 49, 52-53, *reh'g denied*, 114 FERC ¶ 61,300 (2006).

[4] OE Report at 41.

<u>The Commission orders</u>:

PJM's complaint is hereby denied in part, as discussed above.

By the Commission.

(S E A L)

Kimberly D. Bose,
Secretary.

FEDERAL ENERGY REGULATORY COMMISSION

Non-Public Investigation into Possible Market Manipulation by Tower Research Capital Affiliates in the Financial Transmission Rights Markets Operated by PJM: Alleged Wrongful Coordination of FTR Strategies and Affiliate Risk-Shifting

Enforcement Staff Report

Office of Enforcement
Division of Investigations

Docket No. EL08-44 March 11, 2009

I. Executive Summary

In December 2007, PJM Interconnection, LLC (PJM) declared a major default by Power Edge LLC (Power Edge), one of its members. At the time of the default, PJM estimated the magnitude of Power Edge's default to be in the neighborhood of $80 million[5] -- the costs of which would have to be socialized among other PJM members. Power Edge's default set off a series of proceedings both before this Commission and in the courts, and precipitated multiple investigations by this office. This report sets forth the results of one of the issues under investigation: Whether Power Edge was intentionally set up or allowed to fail by its management, in order to benefit Power Edge's corporate affiliates.

In January 2008, this office began a non-public investigation into the activities of Power Edge and its affiliates (collectively, the Tower Companies) in markets administered by PJM. PJM also filed a petition in January 2008, seeking Commission authorization to modify the default allocation provisions of its tariff in a manner that would allow it to retain monies in the accounts of affiliates of a defaulting member.[6] While this requested change to its tariff was pending, PJM declined requests made by Power Edge's affiliates for the return of collateral and revenues to which they believed they were entitled. The Commission rejected PJM's proposed tariff change on March 25, 2008.[7] PJM's continued refusal to return collateral and revenues to which the Tower Companies believe they are entitled is the subject of a complaint filed by the Tower Companies.[8]

On March 7, 2008, PJM filed a complaint in this docket (the PJM Complaint) against the Tower Companies seeking disgorgement of profits and the imposition of civil penalties for allegedly engaging in market manipulation and fraud.[9] On April 30, 2008,

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[5] The default ultimately came to $51.7 million.

[6] "Proposed Change to PJM Operating Agreement," *PJM Interconnection, LLC*, Docket Nos. EL08-455, *et al*. (filed Jan. 18, 2008) (Proposed Tariff Change).

[7] *PJM Interconnection, LLC*, 122 FERC ¶ 61,279 (2008).

[8] "Complaint of BJ Energy, LLC *et al*. against PJM Interconnection, LLC," *BJ Energy, LLC et al. v. PJM Interconnection, LLC*, Docket No. EL08-49 (filed March 28, 2008) (BJ Energy Complaint).

[9] "Complaint of PJM Interconnection, LLC against Accord Energy, LLC, *et al*.," *PJM Interconnection v. Accord Energy, LLC, et al*., Docket No. EL08-44 (filed March 7, 2008) (PJM Complaint).

the Commission issued an order holding PJM's Complaint in abeyance pending the completion of the ongoing Office of Enforcement investigation, and directing it to report its findings to the Commission at the conclusion of its investigation.[10]

Although the investigation as a whole remains ongoing, staff has completed its investigation of two particular allegations made by PJM in its complaint filed on March 7, 2008 in this docket: First, that certain affiliates of Tower Research Capital LLC (Tower) perpetrated a fraud upon PJM by entering into coordinated, offsetting positions in the market for Financial Transmission Rights (FTRs), concentrating high-risk or losing positions in one affiliate, Power Edge, and deliberately causing Power Edge to default on its obligations by saddling it with these positions, and hedging its risk -- not in Power Edge, but in its more profitable affiliates; second, and relatedly, that Power Edge was deliberately under- or de-capitalized in order to trigger its collapse. These allegations alone are the subject of this report; other allegations and issues raised by, or related to the PJM Complaint remain under investigation, and therefore are not addressed in this report.[11]

As to the issues addressed in this report, staff conducted a comprehensive investigation, examining a significant volume of data, transactional records, correspondence, and other documents. Staff also deposed key individuals with knowledge of the companies and transactions at issue, including senior management of both the Tower companies and PJM.

Staff's investigation revealed that Power Edge's massive default was largely driven by two factors: (1) its acquisition of a large, counterflow-heavy FTR portfolio from another market participant, and (2) by significant, extensive, and unforeseen transmission outages during the autumn and winter of 2007. In addition – and critically – the collateral required by PJM to cover those positions proved grossly inadequate.

Power Edge acquired a large portfolio of FTRs at PJM's annual FTR auction in May 2007. Power Edge's FTR portfolio consistently lost money, earning only two months of positive returns during the 12-month life of that portfolio. Although Power Edge's FTR portfolio was expected to incur losses during the summer, it was initially projected by both PJM and Tower to be highly profitable overall, as losses incurred in the

[10] *PJM Interconnection, LLC v. Accord Energy, et al.*, 123 FERC ¶ 61,103 (2008).

[11] These include but are not limited to PJM's allegation that Tower affiliates placed increment and decrement bids in the Day-Ahead market or engaged in other transactions for the purpose of increasing congestion on certain transmission paths and whether the Tower affiliates were employed for any unlawful purpose in connection with such transactions. PJM Complaint at 6-7.

summer were expected to be more than compensated for in the cooler months. This proved not to be the case, as a long, hot summer and unforeseen outages caused the portfolio to yield positive returns only in one month during the period May to December 2007, while incurring unexpectedly heavy losses in most of the other months.

From the very beginning of its participation in the FTR markets, Power Edge sought – and received – permission from PJM to apply significant portions of its collateral to pay its monthly invoices. During the autumn of 2007, Power Edge repeatedly received cash infusions from its ownership to keep it solvent and viable. Power Edge's trader also tried to reduce Power Edge's exposure by attempting to sell its potentially costly counterflow FTRs and acquiring prevailing flow FTRs to operate as hedges against that exposure.

Power Edge was not the only one of the Tower Companies to participate in PJM's FTR markets during the period under examination: during the June to December 2007 period, four other Tower affiliates acquired portfolios of prevailing flow and counterflow FTRs in various magnitudes and proportions for numerous locations and terms. Some of the FTRs owned by Power Edge sourced or sank at nodes where other Tower affiliates had FTRs that sourced or sank. The acquisition of such "corresponding" FTRs by Power Edge's affiliates began at the very beginning of the period under examination – which is to say, when the Power Edge portfolio was still expected to be highly profitable – and continued past the time that Power Edge was prohibited from acquiring additional FTR positions.

There is little evidence that Power Edge was intentionally set up or allowed to fail in order to benefit other Tower affiliates. Rather, the evidence shows that Power Edge's representatives undertook other significant efforts to help Power Edge survive and return to profitability, including attempting to pay transmission operators to accelerate outages that were adversely impacting Power Edge's FTR position. It also shows that, rather than having its store of capital depleted, Power Edge repeatedly received significant cash infusions, despite the poor performance of its portfolio.

Staff concludes that the Tower affiliates did not violate 18 C.F.R. § 1c.2 with respect to this allegation and recommends that this phase of the investigation be closed without a finding of a violation.

II. Background

A. Parties to the Complaint

1. PJM Interconnection, L.L.C.

PJM Interconnection, L.L.C. (PJM) is an independent regional transmission organization (RTO) operating in 13 states and the District of Columbia.[12] PJM includes power generators, transmission owners, electricity distributors, power marketers, and large consumers among its more than 500 members.[13] PJM is authorized by the Commission to administer an open access transmission tariff, operate energy and other markets, and otherwise conduct the day-to-day operations of a multi-state bulk power system. PJM operates various markets for the purchase and sale of numerous electricity products and services and associated financial instruments such as energy, capacity, FTRs, and ancillary services.

2. The Tower Companies

The Tower Companies are a group of affiliated investment funds. Tower Research Capital LLC (Tower Research) and Tower Research Capital Investments LLC (TRCI) are funds with parallel ownership structures which manage certain other funds, some of which participate in markets operated by PJM.[14] Each of these other funds is a "pooled investment vehicle" (in common parlance, a "hedge fund") organized as a limited liability company.[15] The Tower Companies describe these funds as "separate and distinct" entities, with different risk-return profiles and as capitalized by different pools of investors.[16] Although their investors are largely drawn from among Tower employees and their families, they were designed to have different risk profiles and investment strategies which could appeal to a wider spectrum of potential investors.[17] By narrowing

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[12] PJM is an approved RTO. *PJM Interconnection, L.L.C.*, 101 FERC ¶ 61,345 (2002).

[13] http://www.pjm.com/about-pjm/who-we-are/company-overview.aspx (accessed Jan. 7, 2009).

[14] July 29, 2008 Deposition of Mark Gorton (Gorton Deposition) at 13:1-21.

[15] Tower Response to Data Request No. 1 (TRC003022-24).

[16] Protest of the Tower Companies, Docket Nos. ER08-455-000 *et al.*, filed Feb. 15, 2008.

[17] Gorton Deposition at 23:4 – 30:7; *see also* TRC-EE0004295 (an email from

the focus of each fund to specific strategies and markets, it was hoped that the various funds would be easier to value, and hence a more viable recipient of outside investment.[18] Tower also intended that establishing these different funds would make trader compensation easier and more rational.[19] Each of these funds had its own fiduciary obligation to its investors.[20] The other funds named as respondents to the complaint filed by PJM are as follows:

a. BJ Energy LLC

BJ Energy LLC (BJ Energy) is a diversified fund formed in April 2005.[21] It was created when Tower hired Bing Jian Ni, as a vehicle for him to implement investment strategies and receive compensation.[22] Among other things, BJ Energy trades in markets operated by PJM, ISO-New England, Inc. (ISO-NE), Midwest ISO, Inc. (MISO), New York Independent System Operator, Inc. (NYISO), the Electric Reliability Council of Texas, and the Ontario Independent Electric System Operator (IESO).[23] BJ Energy describes itself as "an energy trading fund that seeks low-risk, high returns through trading Financial Transmission Rights (FTRs) and Virtual Transactions (VTs) in the power markets."[24]

Mark Gorton testified that, "the trading that BJ Energy does is not . . . super high turnover, but it's kind of – you know, it trades a lot of monthly positions and things like

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George Lee to Mark Gorton dated May 20, 2007 in which Mr. Lee explains his belief that "it was decided by academics in the seventies" that "it is more efficient for shareholders to diversify their risks by investing in several undiversified firms, than for firms to diversify their risks by becoming conglomerates. In the situation at hand, it is better for Tower to diversify its risk by investing in several strategies, than for strategies to diversify themselves by trading in unrelated markets.")

[18] Gorton Deposition at 134:22 – 138:12.

[19] *Id*. at 138:19 – 140:13.

[20] *Id*. at 38:14-16.

[21] *Id*., Exh. 4 at 11.

[22] *Id*. at 23:16 – 25:11. BJ Energy is actually named after Mr. Ni. *Id*. at 25:9-11.

[23] Gorton Deposition, Exh. 4 at 11.

[24] TRC-EE0000418.

that."[25] BJ Energy participated in FTR markets operated by PJM during the time period under investigation.[26] Mr. Ni began trading FTRs for BJ Energy in autumn 2007.[27] BJ Energy owns interests in certain of its affiliates, including Accord, Ocean Power, and Power Edge.[28] The majority investor (83.47%) of BJ Energy is the Spire Master Fund.[29] Mr. Ni also invests in BJ Energy.[30] BJ Energy is managed by Tower Research.[31]

b. Power Edge LLC

Power Edge LLC (Power Edge) was formed in March 2007,[32] primarily to participate in the FTR markets operated by PJM.[33] Power Edge has also traded in markets operated by IESO.[34] Power Edge was created as a vehicle for Bing Ni to implement higher-risk, higher-reward strategies than in his trading for BJ Energy. Mark Gorton explained that Power Edge was created with the idea of taking on a subset of the trading that had been occurring within BJ Energy, which would ultimately enable Tower

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[25] Gorton Deposition at 26:11-4; First Ni Deposition at 49:7-15.

[26] PJM Complaint at 26; *see also* Felder Report at 21, Oct. 31 Presentation at 13. BJ Energy also participated in PJM's virtual bidding markets, but that behavior is not the subject of this report.

[27] May 13, 2008 Deposition of Bing Ni (First Ni Deposition) at 71:6-7.

[28] Gorton Deposition, Exh. 2.

[29] *Id*. The Spire Master Fund receives investments from two other entities in the "Spire complex": the Spire Fund LP and the Spire Overseas Ltd. Gorton Deposition at 18:6 – 21:2, Exh. 3. Investment in these latter two entities is largely comprised of Tower employees and their "family and friends." *Id*. at 18:14-23. The Spire Master Fund is the only part of the Spire complex that invests in outside enterprises, i.e., the other Spire entities invest only in the Spire Master Fund. *Id*. at 18:6 – 21:2, Exh. 3. *See also* Tower Response to Data Request No. 1 (TRC003023-24).

[30] Jan. 23, 2009 Deposition of Bing Ni (Second Ni Deposition) at 14:5 – 15:12; Gorton Deposition at 67:7-9.

[31] .Gorton Deposition, Exh. 2.

[32] Gorton Deposition, Exh. 4 at 11.

[33] Tower Response to Data Request Nos. 7, 8; Deposition of George Lee (Lee Deposition) at 6:21-23.

[34] Gorton Deposition, Exh. 4 at 11.

to "take more capital in, trade in a larger size and raise outside money."[35] The inspiration for creating Power Edge was the strong performance of a portfolio of mostly counterflow FTRs that Mr. Ni acquired in PJM during 2006-07.[36] Mr. Gorton "expected that Power Edge would return a lower rate of return [than BJ Energy] but be able to do that on a larger amount of money."[37]

Mr. Ni began trading FTRs for Power Edge in spring 2007.[38] The majority (99.294%) owner of Power Edge is BJ Energy.[39] Mr. Ni directly and indirectly, through BJ Energy, holds ownership interests in Power Edge.[40] Power Edge is managed by TRCI.[41]

c. Accord Energy LLC

Accord Energy LLC (Accord) was formed in July 2007, for essentially the same reason that Power Edge and Ocean Power LLC (Ocean) were created: to house and implement a certain subset of the trading strategies that had originally been developed and implemented by BJ Energy, but which would "be able to take more capital in, trade in a larger size and raise outside money."[42] Accord, like Power Edge and Ocean, was intended to specialize in "somewhat higher-risk portfolios than BJE."[43] Accord was intended primarily to trade in FTR markets operated by ISO-NE, although it also trades from time to time in markets operated by PJM.[44] Accord executed only a very small

[35] *Id*. at 26:16-22.

[36] Lee Deposition at 52:22 – 53:3.

[37] Gorton Deposition at 29:25 – 30:2.

[38] First Ni Deposition at 71:17-18.

[39] Gorton Deposition, Exh. 2.

[40] Second Ni Deposition at 14:5-12; Gorton Deposition at 67:12-19.

[41] Gorton Deposition at Exh. 1.

[42] *Id*. at 26:16-22.

[43] Email from George Lee to Richard Colpron, dated November 1, 2007 (TRC-EE0018676).

[44] Gorton Deposition, Exh. 4 at 11; PJM000933; Tower Response to Data Request Nos. 7, 8; Gorton Deposition at 144:10-12; TRC-EE0009675 (email from George Lee to Jay Niemeyer of PJM explaining that "Accord will primarily participate in FTR auctions,

number of trades in PJM's FTR markets during the time period under investigation.[45] Mr. Ni began trading FTRs on behalf of Accord in summer 2007.[46] The majority owner of Accord is BJ Energy (97.01%).[47] Mr. Ni holds both a direct, and, through BJ Energy, an indirect ownership interest in Accord.[48] Accord is managed by TRCI.[49]

d. Franklin Power LLC

Franklin Power LLC was formed in January 2007 as a vehicle for Tower trader Xiaohui Gu to trade.[50] It trades in markets operated by PJM, ISO-NE, MISO, and NYISO.[51] Franklin Power's FTR trading is performed by Mr. Xiaohui Gu.[52] Franklin Power is intended to identify investment opportunities based upon quantitative modeling and analysis of electricity flows.[53] "For Franklin Power, LLC, virtual trading is computerized, but FTR trading is not."[54] Franklin Power participated in FTR markets operated by PJM during the time period under investigation.[55] The majority owner

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with occasional increment/decrement transactions for hedging purposes.").

[45] Complaint of PJM Interconnection, L.L.C., Docket No. EL08-44-000, filed Mar. 7, 2008 (PJM Complaint) at 26; *see also*, Expert Report of Frank A. Felder, Ph.D., Docket No. ER08-455-000 filed Feb. 15, 2008 (Felder Report) at 21; Presentation: "Information on the Trading Activity of Mr. Ni of Tower Research," dated October 31, 2008 (Oct. 31 Presentation) at 11, 13.

[46] First Ni Deposition at 71:11-13.

[47] Gorton Deposition, Exh. 2.

[48] Second Ni Deposition at 19:13-19.

[49] Gorton Deposition at Exh. 2.

[50] *Id*. at 25:24 – 26:8, Exh. 4 at 11.

[51] *Id*., Exh. 4.

[52] Tower Response to Data Request No. 1 at TRC003024.

[53] Gorton Deposition at 46:5-10.

[54] Tower Response to Data Request No. 1 at TRC003024.

[55] PJM Complaint at 26.

(89.59%) of Franklin Power is TRCI,[56] which also manages the fund. [57]

e. Ocean Power LLC

Ocean was formed in May 2007.[58] Ocean, which was originally intended to focus on trading in NYISO,[59] currently trades in markets operated by PJM and NYISO.[60] Ocean participated in FTR markets operated by PJM during the time period under investigation.[61] Mr. Ni began trading FTRs for Ocean in autumn 2007.[62] The majority (98.03%) owner of Ocean is BJ Energy. Mr. Ni holds a direct and, through BJ Energy, an indirect ownership interest in Ocean.[63] Ocean is managed by TRCI.[64]

f. GLE Trading LLC

GLE Trading LLC (GLE) was formed in August 2006 to permit Tower trader Andy Eow to implement certain "quantitative technique[s]" in trading in the electricity markets.[65] It uses computer algorithms to trade virtuals in markets operated by PJM, ISO-NE, and MISO.[66] GLE is managed by Tower Research;[67] its majority owner (98.16%) is TRCI.[68] GLE did not participate in FTR markets operated by PJM during

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[56] Gorton Deposition, Exh. 2.

[57] *Id*.

[58] *Id*., Exh. 4 at 11.

[59] *Id*. at 144:2 – 145:6.

[60] *Id*., Exh. 4 at 11.

[61] PJM Complaint at 26.

[62] First Ni Deposition at 71:14-16.

[63] Second Ni Deposition at 15:3-19.

[64] Gorton Deposition, Exh. 2.

[65] *Id*. at 23:23 – 25:16.

[66] *Id*., *and see* Exh. 4 at 11.

[67] *Id*., Exh. 2.

[68] Gorton Deposition, Exh. 2.

the time period under investigation, and is not considered further in this report.

g. Pillar Fund LLC

Pillar Fund LLC (Pillar) was formed in July 2007.[69] Pillar uses computer algorithms to trade virtuals in PJM.[70] Pillar is managed and 100% owned by TRCI.[71] Pillar did not participate in FTR markets operated by PJM during the time period under investigation, and is not considered further in this report.

B. PJM's FTR Markets

FTRs are financial instruments that allow their holder to receive, or obligate it to pay, the difference in price between two nodes: a source and a sink. A holder of an FTR with source A and sink B will be paid the difference in price between A and B if A's price falls below B's. Conversely, the holder would be obligated to pay the difference in price if A's price rose above B's. In other words, an FTR is designed to provide payments that substantially match and offset the difference in price between two nodes. As such, FTRs are financial instruments designed to allow power providers to hedge against the possibility of congestion on their supply paths. Because FTRs are financial instruments, non-physical traders may trade FTRs.

Auctions are PJM's primary means of allocating and pricing FTRs. PJM conducts annual and monthly auctions to allow market participants to purchase and sell FTRs with various terms (annual, quarterly, or monthly).[72] The annual auction, held in May, covers each of the months in the annual planning period, June through May of the following year. At the monthly auctions held throughout the year, individual months or 3-month quarterly blocks within the annual planning period may be purchased.

The FTRs purchased at these auctions are individuated by term, megawatt quantity and receipt and delivery points. Depending on the price differential between the receipt and delivery points, an FTR is identified as either a "prevailing flow" FTR or a "counterflow" FTR. A prevailing flow FTR is one whose source price is lower than its

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[69] Gorton Deposition, Exh. 4 at 11.

[70] *Id*., Exh. 4; Email from George Lee to Jay Niemeyer dated Aug. 1, 2007, PJM000933 ("Pillar, which has different investors and strategies [from Accord], will engage exclusively in increment/decrement transactions.").

[71] Gorton Deposition, Exh. 2.

[72] PJM Tariff, Attachment K-Appendix, § 7.1.3.

sink price; a counterflow FTR is one whose source price is higher than its sink price. A prevailing flow FTR will have a positive purchase price – meaning that the purchaser pays money to acquire the right – because it is expected to yield a positive revenue stream to the FTR holder. A counterflow FTR, in contrast, will have a negative purchase price – meaning that the purchaser receives money to acquire the right – because it is expected to result in a negative income stream, i.e., a payment obligation, for the FTR holder.

When a market participant purchases a prevailing flow FTR at auction, he incurs a monthly charge which he expects to be offset by revenues received in the day-ahead market based on the FTR's value as determined by locational marginal price (LMP) differences between the source and the sink. A load-serving entity, for example, would have incentive to purchase prevailing flow FTRs to offset congestion charges it expects to incur for delivering energy to load in the day-ahead energy market. A prevailing flow FTR will be profitable if the amount paid for it at auction is less than the value of that FTR in the day-ahead market, i.e., if the positive difference in LMP price between the source and the sink is greater in the day-ahead market than was projected by or reflected in the auction where the FTR was purchased.

Conversely, when a market participant purchases a counterflow FTR at auction, he receives a monthly credit. A counterflow FTR position will be profitable when actual congestion charges in the day-ahead energy market are lower than the expected congestion charges reflected in the FTR's purchase price. Under these circumstances, the credit received by the counterflow FTR holder will exceed the amount of the holder's payment obligation.

Because of the price fluctuations in the electricity markets, the acquisition of any FTR exposes its purchaser to some degree of risk. Counterflow FTRs, however, are much riskier products than prevailing flow FTRs because the bet is against the typical path of congestion, with an unlimited upside price risk. While the upside of a prevailing flow FTR is unlimited, so is the downside of a counterflow FTR.[73]

C. Applicable Law

The Commission's prohibition of electric energy market manipulation, 18 C.F.R. §

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[73] Whereas the cost of a prevailing flow FTR is fixed at the outset, the cost of a counterflow FTR is not. Rather, it is the benefit (the acquisition cost, i.e., the payment to the owner) of a counterflow FTR that is fixed. *See* Felder Report at 10, citing PJM Proposed Rate Filing in Docket No. ER08-455 dated Jan. 31, 2008 ("counterflow FTRs result in the Market Participant exchanging a fixed payment for the unknown and potentially unbounded liability of future congestion.")

1c.2, prohibits an entity from: (1) using a fraudulent device, scheme or artifice, or engaging in any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity; (2) with the requisite scienter; (3) in connection with the purchase or sale of electric energy or transmission subject to the jurisdiction of the Commission.[74]

The Commission, in Order No. 670, defined fraud generally "to include any action, transaction, or conspiracy for the purpose of impairing, obstructing or defeating a well-functioning market. Fraud is a question of fact that is to be determined by all the circumstances of a case."[75] Fraudulent behavior is often distinguished from legitimate behavior by the scienter behind the behavior in question.[76]

In its order rescinding Market Behavior Rule 2, the Commission further discussed Part 1c and clarified that:

> the intent behind and rationale for actions taken by an entity will be examined and taken into consideration as part of determining whether the actions were manipulative behavior. The reasons given by an entity for its actions are part of the overall facts and circumstances that will be weighed in deciding whether a violation of the new anti-manipulation regulation has occurred.[77]

In other words, each case will rely on a determination of all the facts and circumstances concerning the entity's conduct. There are no *per se* violations of Part 1c.[78] Rather, all facts surrounding the conduct must be examined and all of Part 1c's elements must be satisfied. Thus, in this situation, among the factors that staff considered were: (1) the purpose for which Power Edge was created; (2) the reasons that led to Power Edge's default; (3) whether the Tower Companies' FTR market transactions were

[74] *Prohibition of Energy Market Manipulation*, Order No. 670, 71 *Fed. Reg*. 4244 (Jan. 26, 2006), FERC Stats. & Regs. ¶ 31,202, 114 FERC ¶ 61,047 (Jan. 19, 2006) (Order No. 670).

[75] *Id*. at P 50.

[76] *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 114 FERC ¶ 61,165, at P 29, *reh'g denied*, 115 FERC ¶ 61,053 (2006).

[77] *Id*.

[78] *DC Energy, LLC v. HQ Energy Services (U.S.), Inc*., 124 FERC ¶ 61,295 (2008).

fraudulent or deceitful;[79] and (4) whether the Tower Companies intended to, or with reckless disregard did, manipulate PJM's FTR market by engaging in coordinated offsetting transactions.[80] These factors are part of the overall facts and circumstances that we considered to determine whether the Tower Companies violated section 1c.2.

D. Scope of Staff's Investigation

Staff investigated PJM's allegation that the Tower Companies designed the corporate structure of their affiliates in order to manipulate the FTR market by concentrating unprofitable positions in one affiliate and profitable positions in other affiliates and allowing the affiliate holding the unprofitable positions to default, thereby retaining profits among themselves and socializing costs to other PJM members. As part of this investigation, staff examined:

- The formation and organization of Tower Research and its affiliates, including but not limited to strategies of the Tower Companies, the functional organization of the Tower Companies, the capitalization and flow of funds among such companies;

- The Tower Companies' FTR transactions, including but not limited to, the rationale for and the manner in which the FTR transactions were structured; and

- The intentions and motivations of the key Tower Company players, including but not limited to the relevant economic and other incentives.

Staff reviewed a large volume of internal documents and transactional data from the Tower Companies, PJM, and PJM's Independent Market Monitor, Monitoring Analytics, Inc. Staff deposed four key individuals associated with the Tower Companies: Mark C. Gorton, founder and majority owner of the Tower Companies; Bing J. Ni, trader in FTRs for four of the Tower Companies; Sandy Choi, General Counsel for the Tower Companies; and George Lee, Risk Officer for the Tower Companies. Staff also deposed two key individuals from PJM associated with the Tower Companies' FTR transactions: Suzanne Daugherty, PJM's Chief Financial Officer, and Harold Loomis, PJM's Credit Manager. In addition, staff held numerous meetings with representatives of both the Tower Companies and PJM, as well as consultations with PJM's Independent Market Monitor in an effort to gather additional information. Staff's investigation also made use

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[79] Order No. 670 at PP 49-50.

[80] *Id*. at PP 49, 52-53.

of the information in the complaint record, as well as the records in related proceedings in Docket Nos. EL08-49-000 and ER08-455-000.

III. The Tower Companies' Conduct in the FTR Markets

As mentioned above, numerous Tower affiliates participated in markets operated by PJM, including PJM's FTR market. BJ Energy participated in that market, as did three affiliated entities in which it is the majority investor: Power Edge, Accord, and Ocean Power. These four companies are all traded by Bing Ni. The other Tower affiliate that participated in PJM's FTR market during the period under examination, Franklin Power, is traded by Xiaohui Gu. The actions of these five affiliated companies are discussed in this section.

A. Results of PJM's 2007 Annual FTR Auction

PJM held its 2007 annual FTR auction from April 10 to May 1, 2007.[81] In that auction, Power Edge acquired 3,728.10 MW of prevailing and 4,969.50 MW of counterflow FTRs.[82] In his FTR trading, Mr. Ni intended to purchase mostly counterflow FTRs in the expectation that market changes would reduce calculated congestion prices and make such counterflow FTRs profitable.[83] Although he did so, he was unable to acquire quite as many counterflow FTRs as he had intended.[84] Franklin Power also participated in that auction;[85] no other Tower affiliates acquired FTRs in the auction. A third party, Exel Power Sources LLC (Exel), a relatively small company,[86] acquired a very large portfolio consisting of 33.40 MW of prevailing and 9,186.70 MW

[81] *See* Monitoring Analytics' "Tower Affiliate FTR and Virtual Trading Activity Timeline: June 1, 2007 through May 31, 2008," dated December 1, 2008 (IMM Chronology) at 3.

[82] Tower Response to Data Request No. 25 (TRC003190); *see also* IMM Chronology at 4.

[83] Oct. 31 Presentation at 12. The market changes contemplated by Mr. Ni included the inclusion of marginal losses in dispatch and adoption of the reliability pricing model. *Id*.

[84] TRC-EE0003288.

[85] IMM Chronology at 3. Franklin Power acquired 406.3 MW of prevailing and 2,294.7 MW of counterflows.

[86] Deposition of Bing Ni at 114:3.

of counterflows at that same auction.[87]

B. Power Edge's Acquisition of Exel's FTR Portfolio

Mr. Ni observed the relatively large position taken by Exel in the annual FTR auction and contacted Edris Kalibala, principal of Exel, to discuss that position on May 8, 2007.[88] Mr. Ni knew Exel was a small company, and was curious why it had taken the large position it did.[89] During this conversation, Mr. Kalibala informed Mr. Ni that PJM had requested additional collateral from Exel.[90] Mr. Kalibala further stated that, because Exel was unable to post the additional collateral, PJM was holding Exel in credit default and prohibiting Exel from engaging in any further trading.[91] Exel, therefore, was eager to find a buyer for its FTR portfolio.[92] Mr. Ni, having been unable to procure as many counterflow FTRs in the annual auction as he had intended, promptly contacted Tower's risk manager, George Lee, to discuss the possible acquisition of a portion of the Exel portfolio.[93]

On May 10, 2007, Mr. Ni was copied on an email from Mr. Kalibala to Mr. Harold Loomis, of PJM's Credit Department.[94] This email authorized PJM to discuss Exel's "positions, credit standings, and/or collateral related details" with Power Edge.[95]

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[87] Tower Response to Data Request No. 25 (TRC003190); *see also* IMM Chronology at 4.

[88] Tower Response to Data Request No. 16 (TRC003184); First Ni Deposition at 114:18-25.

[89] First Ni Deposition at 114:4 - 115:17.

[90] *Id*. at 115:17 – 116:4; *see also* Deposition of Harold Loomis (Loomis Deposition) at 52:11-16. PJM had requested an additional $14.7 million from Exel. First Ni Deposition at 157:21-23.

[91] Tower Response to Data Request No. 16 (TRC003184); First Ni Deposition at 116:22 – 117:4; *see also* Loomis Deposition at 62:2-6.

[92] Tower Response to Data Request No. 16 (TRC003184); First Ni Deposition at 117:10-11.

[93] *Id*. (TRC003184).

[94] *Id*. (TRC003184); First Ni Deposition at 117:11-14.

[95] Tower Response to Data Request No. 16 (TRC003184, TRC003186); First Ni Deposition at 117:11-14.

Mr. Ni then expressed to Mr. Loomis an interest in acquiring 20% of the Exel Portfolio for Power Edge.[96] Mr. Loomis informed Mr. Ni that he would prefer that Power Edge acquire the entire Exel portfolio, rather than merely a part of it.[97] Mr. Loomis further advised Mr. Ni that PJM had reviewed the relationship between the Exel portfolio and the original Power Edge portfolio, and that they were highly negatively correlated; consequently, Power Edge's acquisition of the entire Exel portfolio would not require the posting of much additional collateral – just over $3 million.[98]

PJM's Harold Loomis testified that the additional collateral required for Power Edge to acquire the Exel FTR portfolio was calculated as follows: "[B]ased on the formulaic FTR credit requirements" contained in Attachment Q to the PJM tariff, Power Edge was required to post collateral on its original FTR portfolio in the amount of $6.4 million.[99] PJM, applying Attachment Q's formulaic credit requirements to the Exel portfolio determined that "the credit requirement for this portfolio was negative,"[100] and thus that no collateral was required by the tariff for Exel's portfolio. Recognizing the high risk of a summertime payment default by Exel, however, PJM issued a collateral call to Exel in the amount of $14.7 million,[101] "even though it wasn't formulaically described by the policy."[102] This figure was subsequently adjusted upward to $15.5 million.[103]

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[96] First Ni Deposition at 117:17-19.

[97] Loomis Deposition at 66:6-9; Tower Response to Data Request No. 16 (TRC003184).

[98] First Ni Deposition at 135:5-17; *see also* Loomis Deposition at 73:8-24; Tower Response to Data Request No. 25 (TRC003190). If Ocean Power had acquired the Exel portfolio, PJM would have required it to post $14.7 million – the same as it was requesting from Exel – because it would not have been negatively correlated with Ocean Power's portfolio. First Ni Deposition at 146:24 – 147:9. In addition, Tower was reluctant to create two different funds which were both focused on the long-term FTR market in PJM. *See* Lee Deposition at 11:16 – 14:13.

[99] Loomis Affidavit at ¶ 5, citing PJM Tariff, Att. Q.

[100] Loomis Affidavit at ¶ 4.

[101] This figure was calculated by estimating the difference between the congestion payments required and the payment stream associated with the Exel portfolio during the summer months. Loomis Deposition at 54:1-7.

[102] Loomis Deposition at 52:11-16.

[103] *Id*. at 56:14-25.

PJM believed that the Exel and Power Edge portfolios were negatively correlated in a temporal sense: whereas the Exel portfolio was expected to lose $15.5 million over the summer months, Power Edge's portfolio was expected "to make $6 million over the summer months."[104] Mr. Loomis simply added the $6 million he expected the Power Edge portfolio to earn to the $15.5 million he expected the Exel portfolio to lose over the summer months to arrive at a net collateral requirement for both combined portfolios of $9.5 million.[105] Mr. Loomis explained that he

> decided that the two requirements should not add, but rather should be applied in parallel, with the greater of the two becoming the credit requirement for the total Power Edge position including the acquired portfolio. The $9.5 million requirement, therefore, represented a $3.1 million incremental requirement over Power Edge's original credit requirement.[[106]]

Mr. Ni testified that he requested additional estimates of the collateral that would be required in the event that Power Edge acquired only a portion of the Exel portfolio.[107] PJM provided no such estimates.[108] In fact, Mr. Ni testified that Mr. Loomis advised him that acquiring the entire Exel portfolio would be no more expensive than merely acquiring the 20% of it that Mr. Ni originally wished to purchase.[109] Mr. Ni testified that Mr. Loomis expressed an expectation that the Exel portfolio would incur an immediate default due to losses during the summer months, and that PJM was highly averse to such a result, at least partly because it had never had to confront such a default in the past.[110]

After concluding that the additional risk that would be incurred by Power Edge's acquisition of the Exel portfolio was manageable,[111] Mr. Ni undertook to acquire it for

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[104] *Id*. at 73:14-19.

[105] *Id*. at 90:2-8; Loomis Affidavit at ¶ 5.

[106] Loomis Affidavit at ¶ 5.

[107] First Ni Deposition at 131:13-132:4.

[108] Loomis Deposition at 68:1-3.

[109] Second Ni Deposition at 82:8-18.

[110] First Ni Deposition at 132:9-21, 137:5-12.

[111] First Ni Deposition at 135:22 – 137:4; *see also* Tower Response to Data

Power Edge. Power Edge and Exel executed a term sheet on May 16, 2007, and signed the Portfolio Transfer Agreement on May 22, 2007.[112] On May 23, 2007, Exel confirmed to Power Edge that PJM had completed the portfolio transfer.[113] On May 30, 2007, Power Edge requested the return of $7 million of the $18.3 million of collateral it had posted with PJM.[114] PJM granted that request, leaving more than the $9.5 million collateral it had elected to require for counterflow exposure.[115]

In an internal email dated May 31, 2007, Mr. Ni expressed his belief that, by acquiring the Exel portfolio, "[w]e did PJM a favor."[116]

C. Events Subsequent to Power Edge's Acquisition of the Exel Portfolio

In the summer of 2007, Power Edge's total portfolio of FTRs performed negatively, as expected.[117] In June, Mr. Ni began selling down counterflow positions and purchasing prevailing flow positions to mitigate the overall risk in response to changing market conditions.[118] The performance of Power Edge's FTR portfolio was adversely impacted in June by unusually warm weather and an unexpected transmission outage.[119]

Request No. 36 (TRC003194).

[112] Tower Response to Data Request No. 16 (TRC003184-5).

[113] *Id*. (TRC00315).

[114] Loomis Deposition at 99:7 – 100:4, Exh. 7; *see also* Gorton Deposition Exh. 4 at 14; PJM000497-9.

[115] Loomis Deposition at Exh. 7; Email from Jay Niemeyer to Harold Loomis, dated May 30, 2007, PJM000948 ("The[y] currently have $18.3MM with us, a '0' two-month peak credit requirement and '0' FTR requirement. You did point out that we need to keep roughly $9.5MM due to counterflow exposure. A $7MM return should leave enough to cover the $9.5MM").

[116] TRC-0005188 (email from Bing Ni to George Lee).

[117] Gorton Jan. 23 Letter at 2 (noting that PJM acknowledges that counterflow-heavy portfolios are expected to lose money in the summer and earn money after the high-congestion summer months have passed).

[118] Tower Response to Data Request No. 20 (TRC001396); First Ni Deposition at 171:12 – 172:5.

[119] First Ni Deposition at 185:23 – 187:5.

Power Edge was forced to deposit $200,000 with PJM to satisfy a collateral call.[120] Tower's witnesses testified that, prior to receiving this working collateral call, they were unaware that PJM imposed a Working Credit Limit on FTR portfolios.[121] Power Edge incurred a loss that month of approximately $3.8 million.[122]

In July 2007, when PJM completed its accounting settlements for June, it assessed Power Edge a charge of approximately $5.7 million.[123] After Power Edge informed PJM that it lacked the cash to pay that assessment, PJM permitted Power Edge to satisfy the assessment by providing $2.1 million in cash and applying $3.6 million from Power Edge's collateral account.[124] PJM did this because it believed that it possessed the discretion under its tariff to do so, and was averse to triggering a default – especially when it expected Power Edge's FTR positions to be profitable in future months.[125] Power Edge's FTR portfolio continued to lose money in July – approximately $7.1 million.[126] Power Edge attributed these losses to a combination of hot weather and the emergence of a new transmission product.[127] During the month of July, Mr. Ni attempted to reduce Power Edge's positions by selling them, but was not able to do so as extensively as he had intended.[128]

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[120] PJM Response to Data Request No. 15 (PJM000520). This collateral call was issued because Power Edge had exceeded its Working Credit Limit at PJM. *Id*. The Working Credit Limit is separate from and additional to the collateral requirement for the portfolio.

[121] First Ni Deposition at 208:22 – 211:12; Lee Deposition at 15:12-16, 17:1-13.

[122] Tower Companies Protest at 14. Mr. Ni testified that these losses were unexpected. First Ni Deposition at 208:22 - 209:24.

[123] Gorton Jan. 23 Letter at Exh. 6.

[124] *Id*. at Exhs. 4-6; Loomis Deposition at 108:4-5 (explaining that PJM's decision to apply collateral to the invoice was because Power Edge was short on cash). The precise amount of Power Edge collateral PJM applied to the invoice is $3,666,679.21. PJM001046-47. Power Edge had prepaid $1.1 million on July 9 and $1 million on July 10, 2007. PJM001048-50.

[125] Loomis Deposition at 108:11 – 111:17, 117:5-12; *see also* Feb. 4 Letter to Members.

[126] Tower Protest at 14.

[127] First Ni Deposition at 184:15 – 185:11.

[128] TRC-EE0009210; PJM000464. Mr. Ni testified that his ability to sell Power

Power Edge's FTR portfolio lost $4.2 million in August.[129] In an attempt to reduce the magnitude of transmission outage-related losses, Power Edge sought the opportunity to fund a transmission outage acceleration, whereby the duration of a transmission outage that was causing Power Edge to incur losses would be abbreviated.[130] In August, Power Edge received two cash infusions from BJ Energy, its majority owner, totaling $3.2 million.[131] Also in August, Power Edge requested that PJM withdraw approximately $4.2 million from its collateral account to pay a portion of the July invoice.[132] PJM granted this request, reducing the balance of Power Edge's collateral account to approximately $4.6 million.[133] Despite its losses, internal emails show that Power Edge actually outperformed Tower's internal projections for August "by roughly $9M".[134] Both Bing Ni and George Lee were sufficiently convinced that "[t]here is still great potential in the Power Edge FTR portf[olio]s (very high expected value)" for them to invest additional sums of their own money into the fund.[135]

Edge's counterflow positions was impaired, in part, by increased collateral requirements imposed by PJM during the summer. Second Ni Deposition at 93:7-15. It may also have been impaired by a 30% counterflow credit adder imposed by PJM. PJM000464 (email from H. Loomis to S. Daugherty, dated Dec. 18, 2007.)

[129] Tower Protest at 14.

[130] First Ni Deposition at 200:14 – 201:9. PJM's Transmission Operations Manual provides that, under some circumstances, a PJM member can request that a transmission owner move or accelerate a scheduled outage. Such a request is at the sole discretion of the transmission owner, but if he consents to the request, the requesting member will be required to fund the costs of the outage acceleration. PJM Manual 3: Transmission Operations, Revision 33 at 56. Available at: http://www.pjm.com/~/media/documents/manuals/m03.ashx (viewed Jan. 29, 2009).

[131] Chart: "Significant Investments by BJ Energy into Power Edge" submitted to staff Feb. 27, 2009 (Power Edge Investment Summary); TRC-EE0012712; PJM000468-9; Tower 009249.

[132] Tower Protest at 14; PJM000468-9. The precise amount of the Power Edge collateral PJM applied to the invoice was $4,175,201.84. PJM00141. Power Edge had previously wired $2,916,673.20 to PJM; the collateral covered the remainder. PJM001054.

[133] Tower Protest at 14.

[134] TRC-EE0017940.

[135] TRC-EE0012711 (email from Bing Ni to George Lee dated Sept. 4, 2007); *see*

In September, Power Edge added approximately $800,000 to its collateral account.[136] September was unusually hot, leading to increased demand and therefore increased congestion, which was exacerbated by previously scheduled transmission outages.[137] Moreover, it was announced that an outage on the Flagtown-Somervil line originally scheduled for 71 days in spring 2008 would be rescheduled and expanded into a 46-day outage in autumn/winter 2007-08 coupled with a 95-day outage in winter/spring 2008.[138] Power Edge's FTR portfolio lost approximately $1.4 million in September.[139]

Nonetheless, Tower seemed to think that Power Edge's portfolio was in reasonably good shape. An internal Tower email dated October 27, 2007 states that "September was disappointing. The PowerEdge portfolio lost about $1.5M rather than make the expected -$0.5M to $2M, due to a series of unusual scheduled outages. . . . [H]owever, it is clear that PowerEdge is turning around. Cumulatively, as of the end of September, PowerEdge is ahead of target roughly by about $6M."[140] Once again, Power Edge requested and received permission to withdraw a portion of its collateral to pay its August invoice, thereby reducing the balance of the collateral account to approximately $1.2 million.[141]

On October 1, 2007, BJ Energy made a $1 million capital contribution to Power Edge.[142] Power Edge's FTR portfolio produced approximately $2.6 million in earnings in October,[143] at least partially vindicating Mr. Ni's belief that "October should be

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also TRC-EE0014535 (email from Bing Ni to George Lee dated Sept. 21, 2007).

[136] Tower Protest at 14; Power Edge Investment Summary; PJM Response to Data Request No. 15 (PJM000467, PJM001043); Tower 009244.

[137] First Ni Deposition at 174:10-17.

[138] Gorton Jan. 23 Letter, Exh. 2.

[139] Felder Report at 14.

[140] Email from G. Lee to J. Martell (TRC-EE0017940).

[141] Felder Report at 14; PJM Response to Data Request No. 15 (PJM000466, PJM000526, PJM001040). The precise amount of the collateral applied to the invoice was $4,234,114.00. PJM001040, PJM00465.

[142] Power Edge Investment Summary; Felder Report at 14; PJM Response to Data Request No. 15 (PJM000525); Tower 009232.

[143] Tower Protest at 15; PJM Response to Data Request No. 15 (PJM000512);

better."[144] October, however, saw a series of unanticipated events that impacted Power Edge's FTR position. The outages on the Flagtown-Somervil line were again expanded and rescheduled – this time to cover essentially the entire winter,[145] when Power Edge's FTR portfolio had been expected to perform best. Additionally, outages on four other lines were rescheduled to overlap with the Flagtown-Somervil outage in December.[146] And, significantly, a transformer exploded on the 1179 MW-rated SFMR Smithburg line, resulting in a wholly-unexpected 5-year outage.[147]

In October, Power Edge once again requested that PJM permit it to withdraw money from its collateral account in order to pay its invoice for the previous month.[148] Once again, PJM granted the request.[149]

On November 1, 2007, BJ Energy made its last major infusion of capital to Power Edge – an investment of $400,000.[150] Power Edge's portfolio got off to a profitable start in November, but was adversely affected by the outages occurring later that month.[151] In November, Mr. Ni stated in an email that Power Edge's FTR portfolio had been hurt by "outage patterns" that were "quite different from previous years."[152] Nonetheless, he expressed his view that "[t]he situation should improve as more transmission and

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Chart: "Significant Collateral and Invoice Payments Between Power Edge and PJM" submitted to staff Feb. 27, 2009 (Collateral/Invoice Payment Summary); *see also* Lee Deposition at 19:3-5.

[144] TRC-EE0014535 (email from Bing Ni to George Lee dated Sept. 21, 2007).

[145] Gorton January 23 Letter, Exh. 2.

[146] Gorton January 23 Letter, Exh. 2. The lines whose outages were rescheduled for December 2007 were the Cooktow, Larrabee, Vanhisvi and Whitings lines. *Id*.

[147] Gorton January 23 Letter, Exh. 2.

[148] TRC-EE003152; PJM000524.

[149] Felder Report at 14; Collateral/Invoice Payment Summary; Power Edge Investment Summary.

[150] Power Edge Investment Summary; Tower 009223 (transfer confirmation).

[151] Loomis Deposition Exhibit 10; 126:7 – 127:2; PJM Response to Data Request No. 15 (PJM000512).

[152] TRC-EE0020284 (email from Bing Ni to George Lee dated Nov. 11, 2007).

generating units are returning to service[] from maintenance outages."[153] As of mid-November, Tower regarded Power Edge as roughly on track to achieve a nearly 30% return on investment, despite all of its unexpected reversals.[154] Notwithstanding its difficulties, Mr. Ni deemed it "very unlikely" that Power Edge would "tank."[155] Again, when payment on the October invoice became due, PJM permitted Power Edge to pay it with funds from its remaining collateral.[156]

Due to outages of unprecedented magnitude, Power Edge's position went, in Mr. Loomis' words, "from a profitable position in November to a dramatically negative position."[157] Mr. Ni contacted the PJM system operator to see if it might be possible to accelerate any outages, but he was informed that it would not be.[158] Power Edge lost $2.3 million in November.[159]

In December, Power Edge failed to pay its November invoice and PJM applied Power Edge's remaining collateral to the November invoice.[160] PJM also issued a series of margin calls to Power Edge, which Power Edge failed to satisfy.[161] On December 20, 2007, PJM issued Power Edge a letter announcing that Power Edge was in default and owed an outstanding balance of approximately $1.5 million.[162] Due to the levels of

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[153] TRC-EE0020284 (email from Bing Ni to George Lee dated Nov. 11, 2007).

[154] TRC-EE0020284 (email from George Lee to Bing Ni, dated Nov. 12, 2007).

[155] TRC-EE0020284 (email from Bing Ni to George Lee, dated Nov. 12, 2007).

[156] Gorton January 23 Letter at Exh. 2.

[157] Loomis Deposition at 126:25 – 127:1.

[158] First Ni Deposition at 202:5-12. PJM also investigated this possibility to no avail. Loomis Deposition at 134:23 – 136:1.

[159] Tower Protest at 16.

[160] PJM Response to Data Request No. 15 (PJM000462-3; PJM000511).

[161] PJM000895 ("The two collateral calls for Power Edge were $2 million on December 5th when actual November 2007 activity calculations were finalized and $10 million on Dececmber 12th when the atypical congestion patterns continued around Power Edge's FTR counterflow positions. Power Edge was unable to fulfill either of those collateral calls."); *see also*, Gorton January 23 Letter at Exh. 2; Loomis Deposition at 134:18 – 135:2; PJM Response to Data Request No. 15 (PJM000512, PJM000528).

[162] Gorton January 23 Letter at Exh. 2; Tower Protest at 16 and Attachment J.

congestion in the market, Power Edge's FTR portfolio performed catastrophically in December, racking up approximately $20 million in losses.[163] PJM issued a press release on December 26, 2007 informing its members that Power Edge was in default on its FTR positions.[164] The cost of the default was ultimately $51.7 million.[165]

D. The Tower Affiliates' FTR Positions

Power Edge's Tower affiliates participated in the FTR markets operated by PJM, but, with the exception of Franklin Power, they were relatively insignificant players.[166] In some instances, these affiliates purchased FTRs whose source and sink points were the reverse of those held by Power Edge;[167] in other instances, they purchased FTRs that sourced where a Power Edge FTR sunk.[168] Mostly, however, the FTRs they purchased did not even partially match FTR positions held by Power Edge. The FTR positions held by Power Edge's other Tower affiliates are discussed in greater detail below in Section V.A.2.b.

IV. Financing and Capitalization

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[163] Tower Protest at 16.

[164] Tower Protest at 16 and Attachment K. PJM subsequently revised its estimate to the range of $66 - $70 million. *Id*.

[165] After PJM applied the entire remainder of Power Edge's collateral to its November invoice, an outstanding obligation of $1,497,000 remained. To this figure was added additional liabilities accrued by Power Edge's FTR portfolio in December ($19,943,000), January ($15,958,000), February ($9,412,000), March ($2,522,000), and April ($6,250,000). The portfolio actually turned a profit in its last month of existence, generating revenues of $3,864,000, and reducing the magnitude of Power Edge's default to $51,718,000.

[166] *See* Appendix B, "Cumulative Rolling Individual Fund Position by Auction Month (May 2007 – Dec. 2007). Franklin Power was managed by Xiaohui Gu, a rival trader to Mr. Ni. *See* Lee Deposition at 63:17 – 64:8.

[167] *See* Appendix A, "FTR Positions of Tower Affiliates Exactly Corresponding to Positions Held by Power Edge".

[168] *See* Appendix C, "Individual Fund Partially and Exactly Matched FTR Megawatts to Total Cumulative Power Edge MW Position (12 Month Net MW Position) per Auction Month". This chart shows the amount, in MW, of Tower affiliates' FTR positions partially or completely matching Power Edge's positions relative to Power Edge's total FTR portfolio.

As mentioned above, each of the Tower Companies is funded primarily by other funds within the Tower "feeder structure." These other funds within the feeder structure are, like the funds they feed into, principally funded by Tower employees, along with their friends and family members. Although Tower intended eventually to solicit investors from the public for the various Tower Companies, it had not done so during the time period under investigation.[169] Tower's management understood that these funds needed, among other things, a track record of approximately 3 years before they could reasonably hope to attract outside investors.[170]

Following the initial creation of Power Edge,[171] BJ Energy contributed an additional $13.7 million to Power Edge between March 29 and November 1, 2007.[172] An internal Tower email dated October 27, 2007 states that "BJ Energy invested a substantial amount of its capital – between $20M to $25M – in a high-risk annual portfolio that we call PowerEdge [*sic*]."[173] Funds were not transferred to or from Power Edge and any Tower affiliate other than BJ Energy, Power Edge's primary investor.[174]

On June 1, 2007 – the day after it finalized its acquisition of the Exel portfolio – Power Edge returned $4 million to BJ Energy.[175] That capital was returned because Tower believed – inaccurately, as it turns out – that the collateral required by PJM fully covered the risks of Power Edge's position.[176] That was the only transfer of funds out of Power Edge's PJM account.

Additional investments apparently were made into the various Tower affiliates –

[169] Lee Deposition at 35:21 – 36:5.

[170] *Id*.

[171] Power Edge was initially capitalized with $10 million from BJ Energy in March 2007. Power Edge Investment Summary; PJM000654.

[172] Power Edge Investment Summary. Of that $13.7 million, $4 million was ultimately returned to BJ Energy. *Id*.

[173] Email from G. Lee to J. Martell (TRC-EE0017940).

[174] Lee Deposition at 43:5-13.

[175] Power Edge Investment Summary.

[176] Lee Deposition at 50:8 – 51:1, 59:2-20.

including Power Edge – by Tower employees and certain of their relatives.[177] As late as September 4, 2007, Mr. Ni believed that there was "still a great potential in the Power Edge FTR [portfolio] (very high expected value)" to such an extent that he was willing to continue investing his own capital in the enterprise.[178] Indeed, Mr. Ni and Mr. Lee both viewed the opportunity to invest further in Power Edge as a promising one – even in late September, when hot weather had significantly impaired the value of the Power Edge portfolio.[179] With the exception of the June 1 distribution, all funds invested in Power Edge's PJM account and all profits earned on its PJM positions, have either been paid to PJM, offered to PJM, or retained by PJM to offset amounts owed by Power Edge.[180]

V. Legal Analysis and Findings

A. 18 C.F.R. § 1c.2

To make out a claim of market manipulation under 18 C.F.R. Part 1c, facts satisfying three elements must be present: (1) a fraudulent device, scheme or artifice, (2) made with scienter, and (3) in connection with a transaction subject to the jurisdiction of the Commission. Although FTRs are not themselves jurisdictional facilities under the Federal Power Act, they are in connection with or affect or relate to jurisdictional transmission service: the holder receives transmission service at the fixed price of the FTR and FTRs are sold "in connection with" the jurisdictional transmission service.[181]

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[177] *Id*. at 43:14-15; *see also* Tower 003939-40. These individuals were aware that Power Edge's performance was expected to be "highly volatile" and that they could lose their investments entirely. Tower 003939-40.

[178] TRC-EE0012711.

[179] TRC-EE0014535. (Email from Bing Ni to George Lee, dated Sep. 21, 2007: "Just in case there is a hit due to the coming 'heat wave' in the South, PE might need a little more capital, say $0.5MM. In that case all three of us (you, Nick, and I) are entitled to put in around $1000, based on a fair and reasonable calculation.")

[180] Approximately $3 million remained in Power Edge's bank accounts at the time of its default on December 20, 2007. Power Edge states that it initially offered that money to PJM, but after it became clear that PJM intended to litigate with the Tower Companies, Power Edge elected to retain this money to pay legal and operating expenses during the duration of its litigation with PJM. Power Edge intends to pay PJM whatever remains of this sum when its dispute with PJM is resolved. Email correspondence from A. Foldenauer to S. Coleman, dated Feb. 12, 2009, citing Answer of the Tower Companies, Docket No. EL08-44 at p. 25 (Mar. 27, 2008).

[181] *See Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and*

Because the FTR market transactions at issue in this matter are in connection with the purchase or sale of electric energy or transmission of electric energy subject to the jurisdiction of the Commission,[182] the third element is satisfied. As discussed below, however, the other two elements are not.[183]

1. PJM's Allegations of Fraud by the Tower Companies

PJM summarizes the essence of its complaint as follows:

> [T]he Tower Companies engaged in fraudulent trading activities to benefit the financial position of some affiliates, by creating congestion and distorting the value of FTRs and locational marginal prices ("LMPs"), while adversely affecting the financial position of another affiliate, Power Edge, that the Tower Companies knew would default on its obligations to PJM, causing all other members to bear the cost of the default.[[184]]

In its Complaint, PJM enumerates four "categories of manipulation" into which it believes the Tower Companies' conduct falls; of these, two are of particular relevance to the subject of this Report: First, PJM's allegation that "the Tower Companies colluded to purchase offsetting FTR positions in different affiliates, such that the default of Power Edge, which must be paid by the PJM members, was greater than it otherwise would have been, while one or more other affiliates received unjust profits;"[185] second, PJM's

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Ancillary Services by Public Utilities, Order No. 697, FERC Stats. & Regs. ¶ 31,252, at P 921, *clarified* 121 FERC ¶ 61,260 (2007), *order on reh'g*, Order No. 697-A, 73 Fed. Reg. 25, 832 (May 7, 2008), FERC Stats. & Regs. ¶ 31,268, *order on reh'g and clarification*, 124 FERC ¶ 61,055 (2008).

[182] Order No. 670 at P 49.

[183] In its Complaint, PJM also alleged that Tower affiliates engaged in certain virtual bidding transactions for the purpose of manipulating the value of FTRs held by other, or the same, Tower affiliates. This report does not address that allegation, and its finding that the Tower affiliates' FTR positions were not fraudulently coordinated should not be construed as prejudging the resolution of that separate allegation, which is still being investigated. This report also does not address the Tower Companies' complaint that PJM is wrongfully withholding revenues and excess collateral due to them. That complaint is pending before the Commission in a separate proceeding. *See* BJ Energy Complaint, Docket No. EL08-49.

[184] PJM Complaint at 3.

[185] *Id*. at 22.

allegation that the Tower Companies made an "intentional and fraudulent distribution out of . . . Power Edge, at a time when the company had no earnings and had only experienced, or expected to experience near-term losses . . ."[186] In short, PJM believes that the Tower Companies deliberately concentrated their highest-risk FTR positions in one affiliate, Power Edge, deliberately de-capitalized or under-capitalized that affiliate, and obtained lower-risk, offsetting FTR positions for other affiliates. Thus, the costs of Power Edge's default would be increased and socialized among PJM's members, while the benefits of the Tower Companies' low-risk FTR positions would be captured as profit by those other affiliates, rather than mitigating the harm to the market of Power Edge's default.

PJM asserts that the Tower companies "manipulated the market through their coordinated purchases of positions in FTRs in different affiliates."[187] According to PJM, many of the FTR positions purchased by the Tower affiliates "sank in locations known to provide offset to Power Edge's poor performing counterflow FTRs."[188] By acquiring these positions for the portfolios of other Tower affiliates, rather than for Power Edge, PJM claims that the Tower affiliates deliberately exacerbated Power Edge's default to enrich the other affiliates.[189] PJM asserts that the Tower affiliates' actions therefore constituted "a 'course of business that operates or would operate as a fraud or deceit upon' PJM and the PJM members."[190]

Our investigation does not support PJM's allegations of a violation of our anti-manipulation provisions. We do not agree that the taking of different or offsetting positions in the same market by affiliated companies necessarily constitutes evidence of an intent to defraud the market. All of the relevant circumstances must be considered. The evidence of coordination between the various Tower Companies is too weak to support a finding of fraud as alleged by PJM.

PJM's further allegation that "Power Edge may have fraudulently distributed funds to its investors and/or shareholders, reducing the cash available to pay its counterflow FTR obligations, causing defaults which PJM members are now forced to

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

[187] *Id*. at 23.

[188] *Id*. at 23.

[189] *Id*. at 27-28.

[190] *Id*. at 28.

pay"[191] likewise fails to hold up under examination. The investigation found that the only major distribution of funds from Power Edge's PJM account was made on June 1, 2007 – the first day that its FTR positions became effective. With respect to this transfer of funds the evidence shows that neither Tower nor PJM believed that Power Edge was required to retain the additional capital.[192] It was, moreover, made at a time when both Tower and PJM believed that Power Edge's FTR portfolio would be highly profitable over the coming year. Decisively, although it is true that Power Edge withdrew $4 million from its account on June 1, 2007, it subsequently received *over $5 million* of additional investment.[193] Hence, the $4 million withdrawal cannot be regarded as evincing an intention to cause or permit Power Edge to default for want of adequate capital.

2. The Tower Companies' Transactions in the FTR Market

The evidence does not support a finding that the Tower Companies engaged in fraud by orchestrating coordinated offsetting positions in the PJM FTR markets with the intention of causing Power Edge to default, and enabling other affiliates to capture and retain profits to which they would not otherwise be entitled.

a. Power Edge's Performance

Central to PJM's theory of fraud is the idea that Power Edge failed to hedge its risky FTR positions.[194] Companies are not required by our regulations to hedge their positions in the FTR markets. Of course, a completely hedged position amounts to no position at all: no risk, but also no opportunity to profit. Power Edge was intended to be a high-risk, high-reward company, and purchased FTRs consistent with that investment strategy.

The positions Power Edge initially acquired in the annual FTR auction were expected – even by PJM – to be "extremely profitable."[195] When Power Edge trader

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[191] PJM Complaint at 23.

[192] *See* PJM001265. PJM consented to release the capital in question from Power Edge's account. *Id*.

[193] *See* Power Edge Investment Summary.

[194] *See* PJM Complaint at 4.

[195] Affidavit of Harold Loomis, dated March 3, 2008 at ¶ 3 (Exh. 3 to Loomis Deposition.)

Bing Ni approached PJM about the prospect of acquiring only a portion of Exel's counterflow-heavy portfolio, PJM encouraged Power Edge to acquire it in its entirety.[196] The acquisition of this large, counterflow-heavy portfolio was one of the biggest factors in the magnitude of Power Edge's default.[197] It is clear that both PJM and Power Edge understood that the Exel portfolio was both very risky and potentially very profitable at the time it was acquired.

Another key factor in exacerbating the magnitude of the Power Edge default was the impact of numerous transmission line outages. PJM concedes as much in its complaint filing and elsewhere.[198] Although some of these outages were "planned," their dates and duration often changed significantly following Power Edge's acquisition of its annual FTR portfolio in May 2007.[199] These outages and their impacts were both unforeseen and beyond the control of either Power Edge or PJM. Power Edge tried to ameliorate their effects on congestion by funding the acceleration of the outages. Even as late as mid-December 2007, when Power Edge's failure was all but assured, Power Edge was entreating PJM for help in accelerating transmission outages.[200]

Power Edge's behavior in the FTR markets subsequent to its acquisition of the Exel portfolio seems to reflect an attempt to hedge its counterflow-heavy FTR position by selling counterflow FTRs and purchasing prevailing flow FTRs. By the end of May 2007, following the annual and June 2007 auctions as well as its acquisition of the Exel FTR portfolio, Power Edge had purchased a total of 14,588.2 MW of counterflow FTRs

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[196] *See supra*, section III.B.

[197] The magnitude of Power Edge's default was increased by its acquisition of the Exel portfolio, but we have not concluded that the acquisition of the Exel portfolio was the sole cause of Power Edge's default. Power Edge's original portfolio of annual FTRs also generated many millions of dollars in losses.

[198] PJM Complaint at 16-17 ("As a consequence of warmer weather than typical this past fall [i.e., 2007] and, more importantly, an extended planned transmission outage that commenced in late November, Power Edge's position deteriorated significantly . . ."); *see also* Feb. 4 Letter to Members at 3.

[199] Gorton Jan. 23 Letter, at Exh. 2.

[200] PJM00464. In this document, an internal PJM email from H. Loomis to S. Daugherty, dated December 18, 2007, Mr. Loomis recounts a recent conversation with Mr. Ni, in which Mr. Ni "asked if PJM could request that transmission owners shorten the transmission outage – as much for our [PJM's] benefit as for his, since PJM members are going to shoulder the loss."

and 3,628.1 MW of prevailing flow FTRs.[201] In subsequent auctions, Power Edge purchased a grand total of 15.0 MW of additional counterflow FTRs.[202] On the other hand, it purchased an additional 196.9 MW of prevailing flow FTRs and sold an additional 1,077.2 MW of counterflow FTRs in subsequent auctions.[203] Even after Power Edge lost its ability to purchase additional FTRs at auction, it continued to sell modest amounts of counterflow FTR positions.[204] Mr. Ni believed that Power Edge's ability to sell off its counterflow positions was impaired by credit requirements he was unaware of when he acquired the annual positions.[205]

These actions are consistent with an intent to reduce risk and mitigate the magnitude of any potential default. Mr. Ni's hedging attempts were plainly inadequate, but the FTR transactions he entered into after acquiring the Exel portfolio certainly do not reflect any intent to increase Power Edge's risk or its likelihood of default.

b. Offsetting Transactions

The behavior of Power Edge's affiliates in the FTR markets is important to PJM's allegation of fraud. PJM theorizes that a single entity with multiple affiliates in the FTR markets could manipulate the market by causing those affiliates to take offsetting FTR positions, and then allowing whichever affiliate took the worse position to default, thereby externalizing the costs and internalizing the benefits.[206] In order for a scheme

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[201] It had also sold 394.5 MW of prevailing and 596.0 MW of counterflow FTRs. IMM Chronology at 3-10.

[202] These were all purchased at the July 2007 monthly auction in June.

[203] At the July and August monthly auctions, Power Edge sold a total of 35.9 MW of prevailing flow FTRs. It did not sell any prevailing flow FTRs after the August auction in July.

[204] Mr. Ni explained that, while Power Edge lacked funds in its main account, it still held some capital in the account holding the portfolio it had acquired from Exel, so he attempted to sell off counterflow FTRs from the former Exel portfolio. First Ni Deposition at 175:19-24. "I basically sold as much as possible in Power Edge." *Id*. at 192:9-10.

[205] PJM000464; Second Ni Deposition at 93:6-9, 96:3-10.

[206] This theory has been analogized to a wager at the roulette wheel at a casino in which two related individuals borrow money from the house and place equal and opposite bets with the borrowed money: when one bet loses, the two related individuals simply walk away, sharing the winnings and refusing to pay back the money borrowed to

like this to work, the parties implementing it must have a high degree of confidence that the entity holding the unprofitable positions will actually default. Moreover, according to a report filed by Frank A. Felder on behalf of the Tower Companies,[207] the affiliates would need to "hold 'offsetting FTR positions' that essentially match with regard to source, sink, date, duration, and megawatt quantity."[208] Because the duration of the FTRs available at auction differ, it would be unlikely that FTRs acquired in different auctions would actually offset one another even if their megawatt quantities matched and their source and sink points were reversed.

PJM identifies two sets of FTR positions taken by Tower affiliates that it believes are pertinent to its theory of fraud: those "exactly opposite" to FTR positions held by Power Edge and those "partially opposite" to FTR positions held by Power Edge. The idea seems to be that the "exactly opposite" positions totally hedge and the "partially opposite" positions partially hedge the risks of Power Edge's FTR portfolio. Thus, according to PJM, the positions ought to have been purchased by Power Edge, and their purchase instead by Power Edge's affiliates indicates an intent to game the market.

According to PJM's Market Monitoring Unit (Market Monitor), two positions are "exactly opposite" even if they are for different terms. By the Market Monitor's definition, "exactly opposite" FTRs have their sources and sinks reversed. The Market Monitor's analysis of "exactly corresponding" positions finds that Power Edge's affiliates procured a total of 167.0 MW of prevailing flow FTRs and 153.2 MW of counterflow FTRs "exactly corresponding" to positions held by Power Edge during the period prior to Power Edge's default.[209] According to the Market Monitor's study, during the period May 2007 to December 2007, Tower affiliates purchased[210] 6,263.4 MW of FTRs that

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place the losing bet. It is an inexact analogy, but it seems to illustrate PJM's theory. *See* Proposed Tariff Change Filing at 9-10, *see also* Letter from PJM General Counsel V. Duane to PJM Members, dated January 18, 2008 (on file with the Commission as Attachment M to Tower Protest).

[207] Frank A. Felder, Ph.D. is Director of the Center for Energy, Economic and Environmental Policy and Associate Research Professor at the Edward J. Bloustein School of Planning and Public Policy, at Rutgers University. His report was provided by the Tower Companies in connection with their February 15, 2008 Protest to PJM's Proposed Tariff Change.

[208] Felder Report at 20.

[209] This analysis is illustrated in Table 1, attached hereto as Appendix A.

[210] Sales are not included in this calculation; there were only a modest amount of sales by Tower affiliates of FTRs "partially opposite" to FTRs held by Power Edge.

the Market Monitor described as "partially opposite", i.e., FTRs that sunk where a Power Edge FTR sourced.[211]

PJM's estimate of the degree to which their positions offset or correlated with positions held by Power Edge seems to have been overstated for two reasons. First, given that FTRs are distinguished by four variables (term, MW quantity, receipt point, and delivery point), a position taken by an affiliate would have to have had the same term and MW quantity as a Power Edge position but with receipt and delivery points exactly reversed in order to actually offset that Power Edge position. Evidence for such actually offsetting positions is lacking.[212] Second, by the time the October 2007 monthly FTR auction was held, Power Edge had run out of collateral available for FTR bidding. Consequently, it was not able to purchase additional FTR positions in the October through December monthly auctions.[213]

Since Power Edge was unable to purchase FTR positions that might have hedged the risk of its counterflow heavy portfolio, its failure to purchase such positions (even if they were ultimately purchased by an affiliate) cannot constitute evidence of any particular intent on Power Edge's part. Similarly, no nefarious intent can be imputed to the acquisition of such FTRs by affiliated companies, even if they were acquired by the same trader who performed Power Edge's FTR trading. Under the circumstances, the purchase of such FTRs represented a perfectly rational response to new information and opportunities.

As Professor Felder notes, the Tower affiliates' FTR transactions "reflect[] new information," *viz*., "changes in weather and system conditions" such as the "atypical congestion flows" that PJM concedes developed during the period under examination and contributed to Power Edge's default.[214] Professor Felder also points out that Tower affiliates were not the only entities that took exactly or partly opposite positions relative to Power Edge's FTR portfolio – a fact that reinforces the inference that these positions were taken in response to new opportunities and changed circumstances rather than with the purpose of gaming the system.[215]

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[211] IMM Chronology at 4.

[212] *See* Felder Report at 20-24 and discussion below.

[213] Tower Response to Data Request No. 20 (TRC003196).

[214] Felder Report at 23.

[215] *Id*. at 23-24.

Taking these two factors together – the lack of true and complete "offset" between Power Edge's FTR positions and its affiliates' FTR positions along with Power Edge's limited ability to purchase additional risk-reducing FTRs – evidence of fraud is lacking. Tower affiliates purchased a grand total of 22.0 MW of FTRs opposite to positions held by Power Edge during the time period in which Power Edge was able to purchase additional FTRs, i.e., in the June through October auctions.[216] Of these, only 2.0 MW were prevailing flow FTRs.[217] That is, only 2.0 MW of FTRs were purchased by Tower affiliates that directly correlated with risky counterflow positions held by Power Edge at auctions in which Power Edge was able to participate. Given the magnitude of Power Edge's open positions – over 14,000 MW of counterflow FTRs and nearly 4,000 MW of prevailing flow FTRs based on the annual portfolios alone – the correspondence is vanishingly small.

One last essential point must be borne in mind: by acquiring FTRs that correspond to those held by Power Edge – either by sinking where Power Edge's FTRs source, or sourcing where Power Edge's FTRs sink – the Tower affiliates could not have exacerbated Power Edge's default. FTRs are priced independently of one another, and while FTR values can be influenced by certain bidding behaviors (e.g., by virtual bidding), they are not influenced by other FTRs.[218] Ultimately, the profitability of FTRs depends on the congestion in the Day-Ahead market.

c. Conclusion as to Positions Taken in the FTR Market

Considered as a whole, the positions taken by Power Edge and the other Tower affiliates in the FTR markets do not reflect a pattern indicative of an intent to exacerbate Power Edge's losses or to shift gains from Power Edge to its affiliates. On the contrary, the pattern seems to be one of Power Edge consistently attempting to reduce its exposure

[216] *See* Table 1, Appendix A.

[217] *Id*. While prevailing flow FTRs might have hedged the potential downside of Power Edge's counterflow-heavy FTR portfolio, counterflow FTRs might have had the effect of increasing, rather than decreasing, the potential downside of Power Edge's FTR portfolio.

[218] This is not to suggest that there is no relationship among different FTRs. On the contrary, the purchase of counterflow FTRs creates opportunities for the purchase of prevailing flow FTRs. "Mathematically, the negative price [of a counterflow FTR] indicates that the counterflow FTR is creating a prevailing flow FTR that some Market Participant wants and purchases at a positive price." Felder Report at 10. But the purchase of, e.g., a counterflow FTR does not cause the purchase of a prevailing flow FTR – even between the same points – to be more or less profitable.

and the other Tower affiliates consistently trying to capture profit-making opportunities based on new information and evolving circumstances.[219]

Intent cannot be perfectly ascertained on the basis of whether prevailing flow or counterflow FTRs were purchased, where they were located, for what terms, or in what quantities. Partly this is because whether a given position proves to be in the money or out of the money for its holder depends on a host of factors that can neither be known *ex ante* nor controlled *ex post*. As for the contemporaneous records and sworn testimony, they generally support the idea that Power Edge's ownership and management did not intend for it to fail or contrive for it to do so. Rather, it failed contrary to their expectations and despite their efforts.

3. The Purpose of Power Edge

The stated purpose of Power Edge was to house and implement an investment strategy in long-term FTRs – a strategy which Tower understood to be high-risk, but which it believed would be profitable.[220] Tower has consistently maintained that Power Edge was created in order to implement that strategy and, eventually, to attract outside investment. Because the investment strategy in question was high-risk, it did not fit within the low-risk, low-reward risk profile of BJ Energy, so, in order to maintain a "pure risk profile" for possible outside investors, a separate limited liability company was set up for that purpose: Power Edge.[221]

Power Edge's FTR portfolio became effective on June 1, 2007 and promptly began to incur losses. Despite multiple months of losses, Mr. Gorton repeatedly signed off on the investment of additional capital in and for Power Edge – $5.4 million between August and December.[222] Mr. Ni consistently attempted to limit Power Edge's exposure by selling down its counterflow positions or purchasing additional prevailing flow positions.[223] Mr. Ni also undertook negotiations with PJM on numerous issues related to

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[219] The evidence might have suggested that Power Edge exacerbated its own default if that evidence demonstrated that Power Edge engaged in a pattern either of passing up profitable or risk-mitigating opportunities that instead were captured by other affiliates, or of acquiring additional risky or unprofitable positions. The record does not reflect such a pattern.

[220] Lee Deposition at 9:15-16.

[221] Lee Deposition at 10:1-15.

[222] *See supra*, at Section IV.

[223] *See supra*, at Section III.D.

the viability of Power Edge as an ongoing concern, such as relief from collateral calls and invoices and the acceleration of transmission outages. The investigation uncovered no evidence that either Gorton or Ni intended to cause or to exacerbate the magnitude of Power Edge's failure.

If Power Edge had been created for the purpose of defaulting, Tower would not have continued to invest additional millions into the enterprise that it knew it would never get back if Power Edge failed. In fact, if Power Edge had been created for the purpose of defaulting, Tower presumably would have undertaken no efforts to meet PJM's initial collateral call in July 2007. Instead, Mr. Ni negotiated a resolution with PJM, which put off the declaration of default and enabled Power Edge to continue trading. The application of collateral to pay Power Edge's monthly invoices likewise enabled Power Edge to continue trading. During the time period in which Power Edge actively traded in the FTR markets, it appears that it engaged in trades designed to limit its exposure.[224]

In July 2007, when Power Edge was in its second month of losses, Mr. Ni received a large bonus based on his performance as a trader during the period January 2006 through May 2007.[225] At the time, Power Edge's FTR portfolio was expected to become extremely valuable in later months.[226] The evidence does not support a finding that the bonus was paid to Mr. Ni either to reward him for acquiring a portfolio of losing positions for Power Edge or to deplete Power Edge's collateral or capital and cause it to default. Indeed, Mr. Ni testified that he has received no bonus for 2007-08.[227]

All the incentives run against a strategy of intentional default. Because Power Edge had not attracted outside investment by the time it collapsed, the money Power Edge lost ultimately belonged to the individuals behind the alleged fraud, whether in the form of direct or indirect investment.[228] Beyond the capital they invested, they also stood

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[224] *Id*.

[225] The amount of the bonus was $2,988,785.80. TRC-EE0007694. Mr. Ni also received a second bonus of roughly $1 million. Second Ni Deposition at 13:8-13, 17-18. Tower regarded Mr. Ni's performance on behalf of BJ Energy as "rock-star good!" TRC-EE0005182 (email from George Lee, dated May 30, 2007). In fact, the strong performance of the counterflow FTRs that Mr. Ni purchased for BJ Energy in 2006 inspired Tower to create Power Edge in the first place. Lee Deposition at 52:21 – 53:3.

[226] TRC-EE0007271 (George Lee expected Power Edge to provide a 33-35% positive return on investment).

[227] Second Ni Deposition at 13:19-21.

[228] Lee Deposition at 65:8-22; Second Ni Deposition at 14:11-12, 14:22 – 15:2;

to lose potential earnings in the form of bonuses,[229] or even their employment.[230] But there was more at stake: the failure of a hedge fund like Power Edge would cause reputational harm to the fund's management and affiliates and those involved in the funds collapse – particularly those invested with responsibility for trading and managing risk.[231] The Tower Companies are likely to meet with greater difficulty in attracting outside investment in the aftermath of Power Edge's failure.[232] Finally, Tower was clearly aware that a default by one of its affiliates could have a detrimental impact on the funds' ability to continue trading.[233]

The vast bulk of the emails and other evidence reviewed by staff in this investigation supports the conclusion that Power Edge was created and managed to profit on its own terms, rather than to benefit its affiliates by defaulting. Staff has, however, identified a few emails containing a handful of remarks by Tower employees that could be seen as evincing an expectation or intent for Power Edge to fail. A couple of these remarks merit brief comment.

The most suggestive remark is contained in an email from George Lee to Bing Ni in June 2007: "the very purpose of setting up Power Edge is to allow for defaults, qualified as a SEVERE event, in the next one year, qualified as NEAR TERM."[234] In

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Gorton Deposition Exh. 4 at 12.

[229] Lee Deposition at 57:9-16; Second Ni Deposition at 13:19-21. Given the size of Mr. Ni's 2006-07 bonus – about 40 times his base salary – and the extent of his personal investment, it is not unreasonable to estimate that Power Edge's failure has cost him millions of dollars, personally. It may also have scuttled his plans for developing a commodity futures trading portfolio for Tower. *See* Lee Deposition at 28:16 – 29:1 and Exh. 7.

[230] Lee Deposition at 29:9-18 (when a trading strategy "stops working, it's a sad thing for you. Your bonus is gone and your job is gone."); 38:15, 58:8-9 ("I've been relieved of many of my responsibilities as risk manager."); Second Ni Deposition at 13:19-21, 51:2-19 ("if Power Edge continued to lose money, my job would be in danger.")

[231] Lee Deposition at 58:8-9; Second Ni Deposition at 11:24 – 12:6; Gorton Jan. 23 Letter at 4-5.

[232] Gorton Deposition at 16:17-19 ("in terms of establishing a track record that would attract outside investors, that has not gone so well.")

[233] Lee Deposition Exh. 3 (TRC-EE0007630).

[234] Lee Deposition at Exh. 1 (TRC-EE0007040).

context, however, it appears that this statement represents a poor choice of words, rather than a manifestation of any intention to create a fund for the purpose of failing.[235] Mr. Lee explained that his statements expressed his frustration with an outside accounting firm whose preparation of a draft financial document for BJ Energy seemed consistently uninformed by feedback that Tower had been providing. In Mr. Lee's view, the language of the draft document failed to make adequate accommodation for the fact that BJ Energy was significantly invested in Power Edge -- a company with a high-risk investment strategy.[236] Mr. Lee testified that the objectionable language failed to allow for an unlikely but plausible worst-case scenario: that Power Edge would fail during the period covered by the draft financial report. Mr. Lee understood the accountants to be requesting a sworn statement that there was no such risk of failure and that returns comparable to the previous year were guaranteed.[237]

A second remark that, on its face, could call into question Tower's purpose in creating Power Edge is email correspondence between George Lee and Mark Gorton in early July 2007.[238] In this document, Mr. Lee states that "Bing has decided not to meet a collateral call on Monday for Power Edge," and that "Bing has thought through the consequences and decided that an actual default is not such a bad thing – we may come away with the same net profits as without a default."[239] In the full context of the correspondence, it is clear that Mr. Ni's reluctance to meet that particular collateral call stems from the fact that he felt that he had been deceived by PJM into believing that the collateral requirements for Power Edge's FTR portfolios were lower than they actually were.[240] Mr. Lee testified that the reason they believed Power Edge would come away with the same net profits is because they anticipated the Power Edge portfolio to generate a substantial profit over the course of the year, in which case the amount of any defaults could simply be subtracted from the amount of profits due to Power Edge, thus resulting

[235] Mr. Lee addresses this statement both in an affidavit, Lee Deposition at Exh. 1 (Lee Affidavit) and in his deposition testimony. *See* Lee Deposition at 7:6 – 10:15.

[236] Lee Deposition at 8:21 – 9:5.

[237] *Id*.; Lee Affidavit at ¶ 6.

[238] Lee Deposition, Exh. 3 (TRC-EE0007630).

[239] *Id*.

[240] *Id*. ("There is a long story behind it, but basically PJM low-balled us on the collateral requirements when we acquired the EXELPS portfolio, and now we are faced with collateral requirements we did not know existed (we have to set aside twice the amount of our loss, instead of just once.)")

in the same net position as without the default.[241] Although this email correspondence may reflect a misunderstanding of the facts or a too-casual attitude toward default,[242] when compared with the other evidence, it is a stretch to infer that Power Edge was intended to fail as part of a scheme to defraud PJM and manipulate its markets.

There is no question that Tower was cognizant of the possibility that the investment strategy implemented by Power Edge could fail.[243] Nor is there any question that Tower intended to limit the potential downside of such failure by segregating that strategy into its own limited liability company. But Tower's awareness that the venture could fail and its construction of an LLC to limit its exposure to any such failure do not constitute evidence that Tower *intended* for Power Edge to fail or that it contrived to *cause* Power Edge to fail. In fact, the most probative evidence on the issue of whether or not Tower intended Power Edge to fail – its infusions of capital into Power Edge and other efforts undertaken on Power Edge's behalf – point in the opposite direction.

The individuals at Tower who were involved with Power Edge had much to lose and little to gain by its failure. The evidence shows that, although they were unable to prevent that failure, they did not intend it. The failure of Power Edge more than anything illustrates the highly volatile and risky nature of FTR markets, as well as the tremendous difficulty inherent in accurately and adequately assessing that risk, either from the market participant's perspective[244] or from the RTO's perspective.[245]

4. Power Edge's Capitalization

The history of Power Edge's capitalization is at odds with the theory that it was deliberately de-capitalized or under-capitalized. Power Edge was initially capitalized

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[241] Lee Deposition at 15:8 – 16:6.

[242] Other evidence indicates that, rather than having an unduly lax attitude toward default, Tower understood default to be cause for concern. *See* Second Ni Deposition at 52:9-10, 53:19-22.

[243] Lee Affidavit at ¶ 6; see also, internal email from B. Ni to N. Underwood, dated May 31, 2007 (Tower 003940) ("About Power Edge (PE), I'm sure George has mentioned to you about the high risk in the two portfolios . . . the two portfolios in Power Edge include positions that have high expected returns but are known to be highly volatile: there is a possibility that investment in Power Edge may be lost entirely.").

[244] Lee Deposition at 37:11 – 39:13 and at Exh. 9.

[245] *See* Proposed Tariff Change; *see also* Feb. 4 Letter to Members.

with $10 million, to which BJ Energy added another $13.7 million over the life of the fund.[246] On May 30, 2007, after the close of the annual FTR auction, PJM returned $7 million of "excess collateral" to Power Edge.[247] This collateral was deemed to be "excess" because it exceeded the $9.5 million collateral amount that PJM had requested Power Edge maintain.[248] Following the return of that $7 million to Power Edge, Power Edge returned $4 million to BJ Energy, on June 1, 2007.[249] That distribution on June 1 was the only distribution made out of Power Edge.[250] Significantly, that $4 million distribution from Power Edge to BJ Energy was made on the very first day that Power Edge's FTR positions became effective (i.e., before they had incurred profits or losses), and it was followed by a series of cash infusions from BJ Energy to Power Edge totaling $5.4 million.[251] In other words, money was withdrawn from Power Edge when it appeared unnecessary, but after Power Edge started incurring losses, the amount of the withdrawal was more than offset with new infusions of cash. The money in Power Edge's collateral account diminished over time, as PJM consented to apply those monies to cover Power Edge's monthly invoices.[252] With the exception of the $4 million of excess capital returned to BJ Energy on June 1, all of the money invested in Power Edge's PJM accounts has been applied to cover its debts to PJM.[253]

In short, although Power Edge's capitalization proved inadequate relative to the

[246] Power Edge Investment Summary; Collateral/Invoice Payment Summary.

[247] *Id.*, PJM001265; *see also* Lee Deposition at 59:2-8. Mr. Gorton explained that they initially had to "overcapitalize" the fund because they did not know which of their bids into the annual auction would be picked up. Gorton Deposition at 40:21-25.

[248] PJM001265 *and see supra* at Section III.B.

[249] Power Edge Investment Summary; Collateral/Invoice Payment Summary.. Because of the June 1, 2007 distribution, BJ Energy's net contributions to Power Edge totaled $19.7 million, not $23.7 million.

[250] Gorton Deposition, at 41:6-14; Lee Deposition at 59:20.

[251] Power Edge Investment Summary..

[252] *See supra* Section III.C.

[253] This investigation did not gather evidence on sums invested in Power Edge for the purpose of funding activities in other markets, e.g., amounts that may have been invested in Power Edge to facilitate participation in the IESO markets. As of the date of this writing, Power Edge is not in bankruptcy, but is in default relative to its obligations to PJM.

positions it took in PJM's FTR market, there is no evidence that Power Edge was deliberately under-capitalized, or that capital was withdrawn from Power Edge at a time when those funds were believed to have been necessary to maintain operations. On the contrary, the record shows that capital was infused into Power Edge during periods of losses and that the only distribution out of Power Edge was made at a time when Power Edge's positions were expected to be profitable, and when neither Power Edge nor PJM believed the additional capital to be necessary.

VI. Conclusion

Enforcement staff concludes that, based on all the facts and circumstances surrounding the various Tower Companies' transactions in the PJM FTR market, the Tower Companies did not violate section 1c.2 by arranging coordinated offsetting positions and under-capitalizing or de-capitalizing Power Edge for the purpose of causing it to default. In particular, we found:

- Power Edge was expected to be profitable.

- The primary driver of Power Edge's failure was an unusual pattern of outages whose timing and duration was unforeseen at the time it acquired the bulk of its FTR portfolio,

- A key factor in the large magnitude of Power Edge's default was the poor performance of the very large, counterflow-heavy portfolio acquired from Exel – a portfolio Power Edge had not initially intended to acquire in full until it was persuaded to do so through its conversations with PJM.

- The FTR positions taken by Power Edge's affiliates were not actually offsetting. They generally had different characteristics, which entailed different risk and different potential for reward.

- The FTR positions taken by Power Edge's affiliates were largely acquired at auctions in which Power Edge was not able to acquire additional FTR positions; hence, its failure to acquire such positions for itself cannot give rise to any inference of nefarious intent.

- Power Edge was not deliberately undercapitalized or de-capitalized. Indeed, more money was invested into Power Edge after its FTR positions became effective than was withdrawn from its accounts. Power Edge repeatedly received cash infusions despite its poor performance. The continued investment of millions of dollars into Power Edge up until the month preceding its default directly contradicts the theory that Power Edge was intended to fail in order to increase the profits of its affiliates.

- The key players at Tower – Mr. Ni, Mr. Gorton, and Mr. Lee – all had financial and professional incentives to avoid a collapse by Power Edge.

- Mr. Ni and others undertook a variety of efforts intended to mitigate Power Edge's exposure and return it to profitability.

For these and other reasons discussed herein, staff concludes that the actions undertaken by Power Edge and the other Tower affiliates examined in this report did not constitute a scheme or artifice to defraud made with scienter and thus did not violate 18 C.F.R. § 1c.2. The conclusions set forth above pertain only to the allegations discussed in this report. This report does not constitute staff findings on other allegations set forth in PJM's complaint, or any other potential violation of 1c.2, in connection with Tower and affiliates' transactions in the PJM market.

Appendix A (Table 1)

FTR Positions of Tower Affiliates Exactly Corresponding to Positions Held by Power Edge [254]

Auction (Dates Held)	**Affiliate**	**Offsetting Position in MW**	**Description of FTRs Acquired**
Annual (Apr. 10 – May 1, 2007)	Franklin Power	0	--
	Power Edge	--	13,969.2 MW counterflow FTRs 3,628.1 MW prevailing flow FTRs
June Monthly (May 14 -17, 2007)	Franklin Power	0	--
	Power Edge	--	619 MW counterflow FTRs 1,777.6 MW prevailing flow FTRs
July Monthly (June 15 – 19, 2007)	Franklin Power	0	--
	Ocean Power	0	--
	Power Edge	--	15.0 MW counterflow FTRs 81.4 MW prevailing flow FTRs
August Monthly (Jul. 13 – 17, 2007)	Franklin Power	2.0	2.0 MW prevailing flow FTRs.
September Monthly (Aug. 16 – 20, 2007)	Franklin Power	20.0	20.0 MW counterflow FTRs.
	Accord	0	--
	Ocean Power	0	--
	Power Edge	--	115.5 MW prevailing flow FTRs
October Monthly (Sep. 14 – 18, 2007)	Franklin Power	16.0	16.0 MW counterflow FTRs.
	Accord	0	--
	Ocean Power	0	--
	BJ Energy	78.1	51.2 MW counterflow FTRs; 26.9 MW prevailing flow FTRs.
November Monthly (Oct. 16 – 18, 2007)	Franklin Power	32.0	20.0 MW counterflow FTRs; 12.0 MW prevailing flow FTRs.
	Accord	0	--
	Ocean Power	43.0	31.0 MW prevailing flow FTRs; 12.0 MW counterflow FTRs.
	BJ Energy	116.0	92.0 MW prevailing flow FTRs; 24.0 MW counterflow FTRs.
December Monthly (Nov. 12 – 14, 2007)	Franklin Power	0	--
	Accord	0	--
	Ocean Power	13.1	10.0 MW counterflow FTRs; 3.1 MW prevailing flow FTRs.
	BJ Energy	0	--
Total FTR Positions Acquired by Tower Affiliates Exactly Corresponding to Positions Apr. 10 – Nov. 14, 2007t		**320.2**	**167.0 Prevailing Flow FTRs** **153.2 Counterflow FTRs**
Total FTR Positions Purchased by Power Edge, Apr. 10 – Nov. 14, 2007			**14,603.2 MW counterflow FTRs** **5,487.1 MW prevailing flow FTRs**

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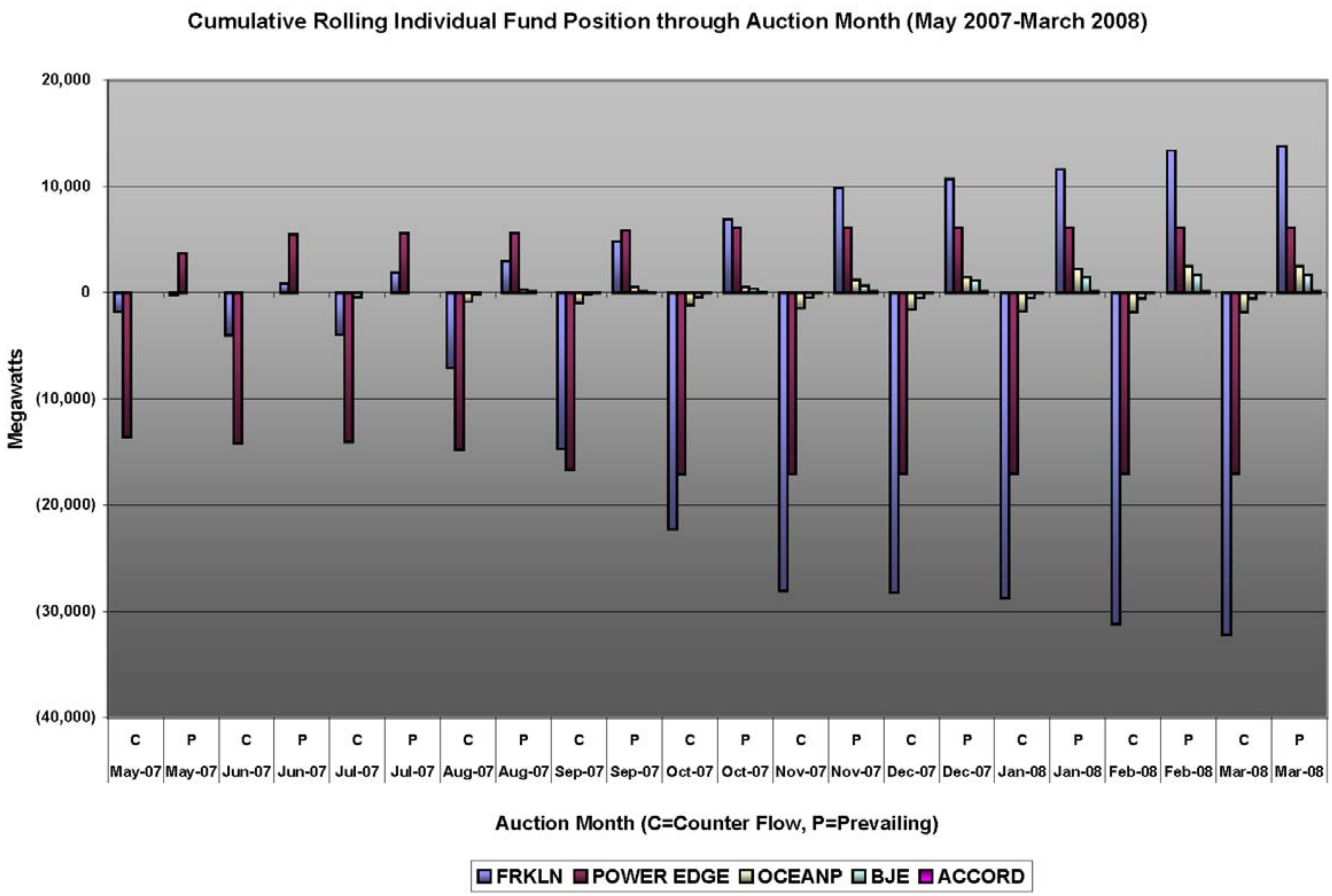
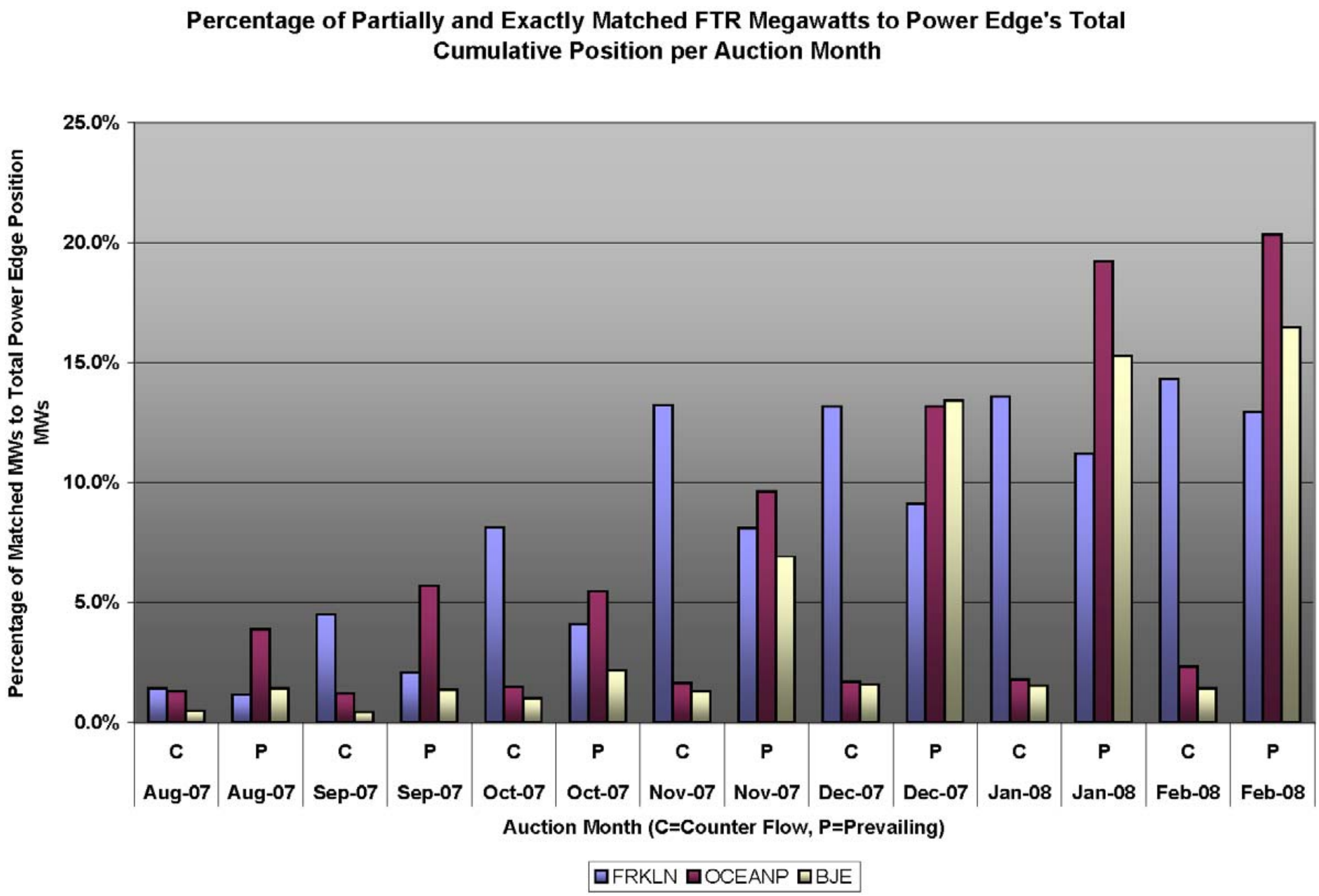
[254] Only Tower affiliates other than Power Edge that purchased FTRs in the referenced auction are listed in this chart. For auction dates, *see* IMM Chronology at 5. Results of the August monthly auction are at p. 16; results of the September auction are at p. 21; results of the October auction are at p. 26; results of the November auction are at pp. 31-32; and results of the December auction are at pp. 36-37.

Appendix B


Cumulative Rolling Individual Fund Position through Auction Month (May 2007-March 2008)
20,000
10,000
0
(10,000)
(20,000)
(30,000)
(40,000)
Megawatts
C P C P C P C P C P C P C P C P C P C P C P
May-07 May-07 Jun-07 Jun-07 Jul-07 Jul-07 Aug-07 Aug-07 Sep-07 Sep-07 Oct-07 Oct-07 Nov-07 Nov-07 Dec-07 Dec-07 Jan-08 Jan-08 Feb-08 Feb-08 Mar-08 Mar-08
Auction Month (C=Counter Flow, P=Prevailing)
FRKLN
POWER EDGE
OCEANP
BJE
ACCORD

Appendix C


Percentage of Partially and Exactly Matched FTR Megawatts to Power Edge's Total Cumulative Position per Auction Month
Percentage of Matched MWs to Total Power Edge Position MWs
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
C Aug-07
P Aug-07
C Sep-07
P Sep-07
C Oct-07
P Oct-07
C Nov-07
P Nov-07
C Dec-07
P Dec-07
C Jan-08
P Jan-08
C Feb-08
P Feb-08
Auction Month (C=Counter Flow, P=Prevailing)
FRKLN
OCEANP
BJE