

175 FERC ¶ 61,138
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Richard Glick, Chairman;
Neil Chatterjee, James P. Danly,
Allison Clements, and Mark C. Christie.

GreenHat Energy, LLC, John Bartholomew, Kevin Ziegenhorn, and Luan Troxel, in her capacity as Executor of the Estate of Andrew Kittell	Docket No. IN18-9-000
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ORDER TO SHOW CAUSE AND NOTICE OF PROPOSED PENALTY

(Issued May 20, 2021)

1. Pursuant to Rule 209(a)(2) of the Commission's Rules of Practice and Procedure,¹ the Commission's Revised Policy Statement on Enforcement,² and the Commission's Statement of Administrative Policy Regarding the Process for Assessing Civil Penalties,³ the Commission directs GreenHat Energy, LLC (GreenHat), John Bartholomew, Kevin Ziegenhorn, and [Luan Troxel as the Executor for] the Estate of Andrew Kittell (Kittell Estate or Estate) (collectively, Respondents) to show cause why they should not be found to have violated Section 222 of the Federal Power Act (FPA),⁴ along with section 1c.2 of the Commission's regulations,⁵ by engaging in a manipulative scheme in the Financial Transmission Rights (FTR) market operated by PJM Interconnection, LLC (PJM), which generated more than \$13 million in unjust profits for Respondents and imposed approximately \$179 million in losses on PJM Members. Based on the same conduct, the Commission directs GreenHat to show cause why it should not be found to have violated PJM Tariff Attachment Q, Section B⁶ and

¹ 18 C.F.R. § 385.209(a)(2) (2020).

² *Enforcement of Statutes, Regulations and Orders*, 123 FERC ¶ 61,156, at PP 35-36 (2008) (Revised Policy Statement on Enforcement).

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

⁴ 16 U.S.C. § 824v(a).

⁵ 18 C.F.R. § 1c.2 (2020).

⁶ PJM Tariff, Attachment Q § B.

PJM's Operating Agreement, Section 15.1.3.⁷ The Commission directs GreenHat, Bartholomew, Ziegenhorn, and the Kittell Estate to show cause why they should not be required, jointly and severally, to disgorge unjust profits of \$13,072,428, plus interest; and directs GreenHat, Bartholomew, and Ziegenhorn to show cause why they should not be assessed civil penalties of \$179,000,000, \$25,000,000, and \$25,000,000, respectively. Respondents may seek a modification of the amounts above consistent with Section 31(d)(4) of the FPA, including based on submission of the information discussed in paragraph 11(D) below.⁸ Pursuant to Rule 213(a) of the Commission's Rules of Practice and Procedure,⁹ the Commission directs Respondents to file an answer with the Commission within 30 days of the date of this order. Office of Enforcement staff (Enforcement staff) may reply to Respondents' answer within 30 days of the filing of the answer. The Commission will consider these pleadings as part of its review of this proceeding.

2. This case presents allegations by Enforcement staff of Respondents' violations of the Commission's prohibition on energy market manipulation and provisions of the PJM Tariff and Operating Agreement. These allegations arose out of an investigation conducted by Enforcement staff and are described in the Enforcement Staff Report and Recommendation (Staff Report).¹⁰ Issuance of this Order does not indicate Commission adoption or endorsement of the Staff Report.

3. The following is a summary of the allegations in the Staff Report. GreenHat was founded in 2014 by Kittell, Bartholomew, and Ziegenhorn, and owned and managed by all three until January 2018, when Kittell became sole owner. Through the collaborative efforts of the three owners, GreenHat built up the largest FTR portfolio in PJM by purchasing FTRs based not on market fundamentals but on minimizing GreenHat's collateral obligations. When it defaulted in June 2018, GreenHat had only \$559,447 in collateral, as against what have proven to be approximately \$179 million in losses on its FTR portfolio.

4. Enforcement staff alleges further that, although GreenHat defaulted on its extremely large portfolio, GreenHat's three owners obtained \$13.1 million for themselves

⁷ PJM Operating Agreement, § 15.1.3.

⁸ Under Section 31(d)(4) of the FPA, 16 U.S.C. 823b(d)(4), the Commission may "compromise, modify, or remit, with or without conditions, any civil penalty which may be imposed . . . at any time prior to a final decision by the court of appeals . . . or by the district court."

⁹ 18 C.F.R. § 385.213(a) (2020).

¹⁰ The Staff Report is attached to this order as appendix A. The Staff Report describes the background of Enforcement staff's investigation, findings and analysis, and recommended sanctions.

by selling profitable FTRs in GreenHat's portfolio to third parties (Shell and Boston Energy Trading & Marketing) in bilateral deals. Enforcement staff alleges that these bilateral sales made money for the three owners but increased the size of the losses on GreenHat's remaining portfolio of FTRs in PJM. According to the Staff Report, GreenHat's alleged scheme is an example of a type of fraud in which perpetrators acquire assets with no intent to pay for them and then try to turn the assets into immediate cash for themselves.

5. Enforcement staff alleges that of the \$13.1 million that GreenHat obtained through bilateral sales as part of its scheme, Kittell obtained about \$8.4 million, Kevin Ziegenhorn about \$2.4 million, and John Bartholomew about \$2.3 million. Under PJM's Operating Agreement (§ 15.2.2), the \$179 million loss on GreenHat's FTR portfolio has been assessed to other PJM members. A large portion of that amount has been paid by utilities, which ultimately pass those costs to ratepayers.

6. The Staff Report also alleges that when PJM raised concerns in the spring of 2017 that GreenHat was headed towards default, GreenHat falsely told PJM that Shell owed GreenHat \$62 million from their first two bilateral deals, in addition to the Final Purchase Price that Shell had already paid for the FTRs in those deals. Enforcement staff alleges that the claimed \$62 million debt from Shell was a fraudulent invention by Kittell, Ziegenhorn, and Bartholomew to persuade PJM not to shut down GreenHat's FTR business.

7. Enforcement staff alleges that in implementing their bilateral agreements with Shell, Respondents used inside information about Shell's offers into PJM's FTR auctions to rig the auctions. Among other things, GreenHat bid on hundreds of FTR paths at exactly the same volumes at which Shell was offering FTRs on those paths, and at prices exactly 22.22% above the prices at which Shell was offering on those paths. In this way, Respondents both increased the size of their immediate payout from Shell and drove up the size of GreenHat's ultimate default.

8. The Staff Report alleges that Respondents generated \$13,072,428 in proceeds through their fraudulent behavior in PJM FTR markets. Enforcement Staff recommends that GreenHat, Bartholomew, Ziegenhorn, and the Kittell Estate be ordered to pay this amount, plus interest, in disgorgement, and that they be made jointly and severally liable for this amount.¹¹

¹¹ Mr. Kittell is deceased. According to the Staff Report, the Securities & Exchange Commission has named estates as parties in numerous fraud lawsuits, including the following: *SEC v. The End of the Rainbow Partners, LLC*, 2017 WL 5404199 (D. Colo. Nov. 14, 2017); *SEC v. Braslau*, 2016 WL 1735800 (C.D. Cal. May 2, 2016); *SEC v. ISC, Inc.*, 2016 WL 6124499 (W.D. Wis. Oct. 20, 2016); *United States ex rel. Robinson-Hill v.*

9. Enforcement staff also recommends that Respondents, with the exception of the Kittell Estate,¹² be ordered to pay civil penalties. Enforcement staff's recommended penalties are predicated on, among other things, its finding that Respondents caused approximately \$179 million in market harm.

10. In light of the allegations contained in the Staff Report, the Commission directs Respondents to respond to this order as set forth above.¹³ This order also is the notice of proposed penalty required pursuant to Section 31 of the FPA.¹⁴ Respondents have the option to choose between (a) an administrative hearing before an ALJ at the Commission prior to the assessment of a penalty under Section 31(d)(2)(A), or (b) a prompt penalty assessment by the Commission under Section 31(d)(3)(A). If Respondents elect an administrative hearing before an ALJ (or decline to timely elect procedures under 31(d)(3)(A)), the Commission will issue a hearing order unless it is determined that the matter can be resolved in a summary disposition; if Respondents elect a prompt penalty assessment, and if, after a review of the full record to be developed in this proceeding, the Commission finds a violation, the Commission will issue an order assessing a penalty. If such penalty is not paid within 60 days of assessment, the Commission will commence an action in a United States district court for an order affirming the penalty.¹⁵

11. The Commission authorizes Enforcement staff to disclose information obtained during the course of the investigation as necessary to advance this matter. The Commission also authorizes Enforcement staff to take any steps required under relevant

Nurses' Registry & Home Health Corp., 2015 WL 3403054, at *5 (E.D. Ky. May 27, 2015); *SEC v. Estate of Saviano*, 2014 WL 5090787 (E.D. Mich. 2014); *SEC v. Wyly*, 860 F. Supp. 2d 275 (S.D.N.Y. 2012); *SEC v. Morgan*, 2008 WL 11333818 (S.D. Fla. Feb. 12, 2008); *SEC v. Grossman*, 2003 WL 133237 (S.D.N.Y. Jan. 13, 2003); *SEC v. Schiffer*, 2001 WL 504860 (S.D.N.Y. May 11, 2001).

¹² According to the Staff Report, California law does not permit collection of penalties from estates.

¹³ Under 18 C.F.R. § 385.213(c), Respondents must file an answer that provides a clear and concise statement regarding any disputed factual issues and any law upon which they rely. Respondents must also, to the extent practicable, admit or deny, specifically and in detail, each material allegation contained in the Enforcement Staff Report and set forth every defense relied upon. Failure to answer an order to show cause will be treated as a general denial and may be a basis for summary disposition under Rule 217. 18 C.F.R. § 385.213(e)(2).

¹⁴ 16 U.S.C. § 823b(d).

¹⁵ FPA Section 31(d)(3)(B), 16 U.S.C. § 823b(d)(3)(B). *See also Process for Assessing Civil Penalties*, *supra* note 3.

state law to preserve the Commission's ability to collect any amounts assessed against the Kittell Estate.

The Commission orders:

(A) Within 30 days of the date of this order, Respondents must file an answer in accordance with Rule 213 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213, showing cause why they should not be found to have violated Section 222 of the FPA; Section 1c.2 of the Commission's regulations; PJM Tariff Attachment Q, Section B; and PJM's Operating Agreement, Section 15.1.3 with respect to their actions in PJM's FTR markets from June 2015 through the present.

(B) Within 30 days of the date of this order, Respondents must file an answer in accordance with Rule 213 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213, showing cause why its alleged violations should not warrant an order requiring Respondents to disgorge unjust profits, joint and severally, in the total amount of \$13,072,428, plus interest, or a modification of that amount consistent with Section 31(d)(4) of the FPA.

(C) Within 30 days of the date of this order, Respondents must file an answer in accordance with Rule 213 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213, showing cause why their alleged violations should not warrant an order requiring Respondents GreenHat, Bartholomew, and Ziegenhorn to be assessed civil penalties in the amounts described in Paragraph 1 of this order, or a modification of those amounts consistent with Section 31(d)(4) of the FPA.

(D) In any answer, Respondents should address any matter, legal, factual or procedural, that they would urge in the Commission's consideration of this matter. If any Respondent contends that they are unable to pay the amounts proposed, they should provide complete documentation supporting that contention. Respondents may also raise any other equitable consideration or hardship that they contend the Commission should consider in ordering a monetary payment. To the extent that Respondents cite any material not cited in the Staff Report, Respondents are directed to file one (1) copy of such material on CD-ROM or DVD in the captioned docket and to serve a copy of same on Enforcement staff. If the materials are confidential, Respondents may file them non-publicly.

(E) Pursuant to Section 31(d)(1) of the FPA, within 30 days of the date of this order, Respondents may also make an election to have the procedures set forth in Section 31(d)(3) of the FPA apply to this proceeding. Under that provision, if the Commission finds a violation, the Commission will issue a penalty assessment and, if not paid within 60 days of the order assessing penalties, the Commission will institute an action in the appropriate United States district court. Should Respondents fail to make a timely election under Section 31(d)(1), the procedures of Section 31(d)(2) will apply.

(F) Within 30 days of the filing of the answer by Respondents, Enforcement staff may file a reply with the Commission.

By the Commission. Commissioner Danly is concurring with a separate statement attached.

(S E A L)

Kimberly D. Bose,
Secretary.

Appendix A to GreenHat Energy, LLC Investigation OSC



FEDERAL ENERGY REGULATORY COMMISSION

Office of Enforcement

**GreenHat Energy, LLC,
John Bartholomew, Kevin Ziegenhorn,
and Luan Troxel, in her capacity as
Executor of the Estate of Andrew Kittell**

Docket No. IN18-9-000

Enforcement Staff Report and Recommendation

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I. EXECUTIVE SUMMARY

GreenHat Energy, LLC (GreenHat) and its owners (Andrew Kittell, John Bartholomew, and Kevin Ziegenhorn) violated the Federal Power Act (FPA) and the Commission's Anti-Manipulation Rule, as well as PJM's Tariff and Operating Agreement, through GreenHat's conduct in PJM's Financial Transmission Rights (FTR) market.¹ Between 2015 and 2018, GreenHat acquired an enormous FTR portfolio not based on an assessment of the FTRs' expected profitability, but with the goal of buying whatever FTRs it could acquire with no (or minimal) upfront cash outlay. As GreenHat amassed the largest FTR portfolio in PJM, both its communications with third parties and its behavior show that it had no intent to pay what it owed at settlement. Not surprisingly, because GreenHat bought FTRs without regard to market conditions affecting the FTRs' profitability, its portfolio ended up deeply in the red, and it defaulted on its huge portfolio in June 2018. Under PJM's Tariff, GreenHat's default left other PJM members (including utilities serving retail customers) to pay for GreenHat's FTR losses. Because GreenHat's strategy was based on minimizing upfront cash outlays from its owners, it had only \$559,447 on deposit as collateral with PJM when it defaulted on its first week of losses (\$1,193,965) in June 2018. Over the three-year period (June 2018-May 2021) during which GreenHat's FTRs have settled (or will settle), its losses (after applying the firm's minimal collateral) are expected to be approximately \$179 million, all of which will be borne by other PJM members.

At its heart, GreenHat's conduct in PJM's FTR markets was a type of fraud long recognized in the law. The basics of this type of scheme are simple: a perpetrator purchases assets or services with no upfront payments and with no intention to ever pay for them. They then either turn the assets or services into cash—by selling them to third parties at a discount—or consume the assets or services directly. When the time to pay arrives, the perpetrator, as planned, defaults.² When a fraudulent scheme of this type is carried out in Commission-jurisdictional electricity markets, it violates the FPA and the Commission's Anti-Manipulation Rule.

¹ Unless otherwise indicated, the term “GreenHat” in this Report refers both to GreenHat Energy, LLC and to its owners Andrew Kittell, John Bartholomew, and Kevin Ziegenhorn.

² Among the many cases describing similar schemes is *United States v. Crockett*, 534 F.2d 589, 592 (5th Cir. 1976) (“As the business becomes more established, its promoters order considerable amounts of additional merchandise although they have no intention of paying for these goods. A huge inventory, most of it not paid for, is built up. The principals then busy themselves disposing of their purchases at substantial discounts or secreting the unsold portion for later below-cost covert sales. In other words, they ‘bust out’ the business”) (emphasis added). We discuss other cases condemning this type of scheme below at pp. 73-74.

The market in which GreenHat carried out its fraud—PJM’s FTR market—allows market participants to place trades that make or lose money based on Day-Ahead congestion price spreads between two PJM nodes over a specified future period. Significantly, no money changes hands when a market participant acquires an FTR; instead, the purchaser pays, or is paid, only when the FTR settles, which may be as much as three years later. Until the FTR’s settlement date, the only cash a purchaser needs to put up is collateral in an amount determined by a PJM formula.

GreenHat’s approach to FTR acquisition was simple: acquire FTRs that collectively require a tiny amount of collateral or, in some cases, allow GreenHat to reduce the already minimal amount of collateral it had on deposit with PJM. With that approach—buying FTRs with no consideration of market conditions or fundamentals—GreenHat, in only four years, built up the largest FTR portfolio in PJM, far larger than those held by experienced FTR trading firms. Reflecting its indifference to the underlying economic merits of the FTRs it was purchasing, GreenHat characterized research about market fundamentals as “inside information” of “low value” in a presentation to potential investors.³

GreenHat defaulted on its FTR portfolio in June 2018 under the weight of historic losses, but the traders who owned and ran the firm—Andrew Kittell, John Bartholomew, and Kevin Ziegenhorn—had already obtained millions of dollars from their FTR scheme.⁴ They did so by selectively selling profitable FTRs from GreenHat’s overall unprofitable portfolio. Even though underwater as a whole, a portfolio as large as GreenHat’s inevitably included some “winners”—that is, FTRs that increased in value after GreenHat bought them. Because FTRs do not generate cash flows until the settlement period, however, GreenHat could not extract immediate cash from those winners by selling them back into a PJM auction under its own account. GreenHat *could* have sold the winners back into PJM auctions and locked in a profit that it would receive on those particular FTRs at settlement in the future. But if it did so, the gains on the winners would be completely offset by the losses on the “losers” that dominated GreenHat’s portfolio, because PJM credits or invoices a market participant’s FTRs in the aggregate at settlement.

To avoid the netting problem and to obtain cash immediately, GreenHat sought out individual counterparties and entered into bilateral transactions with them outside of PJM auctions to sell winners in its portfolio in exchange for upfront cash. These sales for immediate cash removed positively-valued FTRs from GreenHat’s remaining portfolio,

³ GH_0004094, Passive Investing PJM FTR Market (PowerPoint presentation directed at potential investors) (Oct. 21, 2016).

⁴ Mr. Kittell died on January 6, 2021. The Order therefore names the executor of Mr. Kittell’s estate as a Respondent. The San Diego Probate Court named Luan Troxel as executor on May 4, 2021.

thereby increasing the losses it imposed on all other PJM members when it defaulted. But for Kittell, Bartholomew, and Ziegenhorn, the deals worked as intended: altogether, the three received more than \$13 million in cash through their scheme.

Three of GreenHat's four bilateral deals were with Shell Energy North America (US), LP (Shell). In these deals, GreenHat transferred a package of FTRs to Shell, which Shell then offered into a PJM auction.⁵ For the FTRs that cleared, Shell paid GreenHat a purchase price based on an agreed formula.

In its Shell deals, GreenHat often took an extra step to increase the flow of cash to its owners: it violated the FPA and the Anti-Manipulation Rule by rigging the PJM auctions to clear Shell's FTRs at higher prices. Knowing exactly which FTRs Shell would be offering (because it had just transferred them to Shell), and knowing from their contract negotiations the prices at which Shell would offer the FTRs into the auction, GreenHat submitted bids for the same FTRs at inflated prices—often at exactly 110% or 122.22% of Shell's offer price. In essence, GreenHat bought back *at higher prices* the same assets it had just transferred to Shell. This conduct is irrational for a legitimate FTR investor, because GreenHat was voluntarily increasing its cost basis in the same assets and thus ensuring a worse outcome when the FTRs settled in the future. But by bidding into the PJM auction at inflated prices on the same FTRs it just sold to Shell, GreenHat artificially drove up the price at which Shell was able to sell those FTRs. And under the formula in their bilateral deals, higher sales prices meant larger immediate cash proceeds for GreenHat under those deals.

In 2018, just weeks before it defaulted, GreenHat entered into a fourth bilateral deal, this time with Boston Energy Trading and Marketing (BETM). In that deal, GreenHat sold winner FTRs to BETM for \$2 million in a simple asset sale for a lump sum payment. Like the Shell deals, this transaction added to the size of GreenHat's default, while enriching GreenHat's owners: promptly after receiving the cash from BETM, GreenHat transferred the proceeds to its three current or former owners.

By purchasing FTRs without regard to their future value, and by selling the winners in its portfolio, GreenHat ensured that its portfolio would be net-negative at settlement. But as the totality of the evidence shows, GreenHat planned to pay almost nothing upon default. *First*, GreenHat's owners had very little of their own funds on deposit at PJM as collateral—less than \$560,000 when GreenHat's portfolio collapsed in 2018, against what has proven to be \$179 million in losses on its portfolio. *Second*, instead of leaving the \$13.1 million in proceeds from GreenHat's bilateral deals in GreenHat's account, its owners moved that money into their own personal accounts, leaving no money in GreenHat's name to cover losses on its portfolio. For example, one

⁵ Although Shell locked in the sales price of the FTRs that it sold into the PJM auctions in 2016 or 2017, it did not collect anything from those sales until the FTRs settled, starting in 2018.

day after being warned by PJM of a potential collateral call that would likely lead to GreenHat's default, the owners met on a weekend to authorize the transfer of all of the funds in GreenHat's account into the account of another company they owned, from which they promptly transferred the funds into their own personal accounts. *Finally*, as discussed below, that GreenHat's owners did not intend to pay for losses at settlement is also supported by a contemporaneous email written by a third party in 2017 after meeting with the owners.

In short, GreenHat built up a massive inventory of FTRs based on which ones it could acquire while putting up virtually no cash, and planned to pay virtually nothing upon the firm's default. As the *Crockett* case cited above (and the many other cases cited at pp. 73-74 below) show, this is a well-established form of fraud, which violates the FPA's prohibition on market manipulation and the Commission's Anti-Manipulation Rule.

When PJM realized in the spring of 2017 that GreenHat's portfolio was facing huge losses and was supported by almost no collateral, GreenHat made false and misleading statements to PJM about a non-existent receivable from Shell. Confronted by PJM with the fact that its portfolio had a negative valuation of \$35 to \$40 million at the time, and with virtually no collateral to cover the losses, GreenHat fabricated a claim that Shell owed GreenHat \$62 million from the firms' first two deals. In fact, Shell had fully paid what it owed GreenHat for those deals, a sum the contracts expressly called the "Final Purchase Price." Ultimately, GreenHat made a deal with PJM in June 2017 in which it pledged the (non-existent) future Shell payments to PJM. After making the deal, GreenHat continued with its scheme: purchasing still more FTRs without regard to market fundamentals and obtaining still more cash for its owners through third-party deals. Both its massive FTR purchases and its sale of winners for cash over that year drove up the size of its ultimate default.

In June 2018, GreenHat's 2018/19 long-term FTRs began to settle. As GreenHat's owners knew would happen, GreenHat defaulted: it failed to pay for the losses its portfolio incurred in the first week of settlements—totaling \$1,193,965—or any invoice thereafter. PJM declared GreenHat to be in default on June 12, 2018. Under PJM's Tariff, losses on defaulted portfolios are "socialized" among all other PJM members, even though the other members may never have even owned any FTRs. Since then, every PJM member has been billed for GreenHat's losses, as they will continue to be until its 20/21 FTRs finish settling in May 2021.

Staff concludes that GreenHat engaged in a manipulative scheme resulting in approximately \$179 million in losses to PJM market participants and generating more than \$13 million in unjust profits for GreenHat's owners. This conduct violated the FPA's anti-manipulation provision, the Commission's Anti-Manipulation Rule, and PJM's Tariff and Operating Agreement.

The Office of Enforcement (Enforcement) recommends that the Commission issue an Order to Show Cause and Notice of Proposed Penalty to GreenHat, John Bartholomew, Kevin Ziegenhorn, and Luan Troxel, in her capacity as Executor of the Estate of Andrew Kittell (Kittell Estate) (collectively, Respondents) requiring them to show cause why (i) they did not violate Section 222 of the FPA, 16 U.S.C. § 824v (2018) and the Commission's Anti-Manipulation Rule, 18 C.F.R. § 1c.2 (2020); (ii) GreenHat did not violate PJM Tariff Attachment Q, § B and PJM's Operating Agreement § 15.1.3; (iii) GreenHat, Bartholomew, Ziegenhorn, and the Kittell Estate should not be required, jointly and severally, to disgorge \$13,072,428, plus interest, in unjust profits; (iii) GreenHat should not pay a civil penalty of \$179 million; and (iv) Bartholomew and Ziegenhorn should not each pay a civil penalty of \$25 million.

II. BACKGROUND

A. Procedural and Investigative History

Enforcement's investigation was prompted by a tip to the Enforcement Hotline from Kevin Kelley, CEO of an FTR trading firm called Roscommon Analytics. Kelley emailed the Hotline on June 25, 2018, explaining that he had met with Kittell in the fall of 2016 to discuss GreenHat's business and possible transactions with Roscommon. Kelley summarized the conversation and his concerns as follows:

In September 2016 . . . I met with Andrew Kittell, founder of Greenhat. He described Greenhat's activities as focusing on the long term FTR markets, at that point only the furthest year out - and purchasing FTRs based upon hold collateral requirements only, creating positive hold collateral so they could use that collateral to buy more positions in subsequent auctions. My radar went off when I asked who was doing their power flow analysis, an absolute requirement to have any success in FTR investing - and he said he had no one doing it, they weren't looking at fundamentals, just strictly buying based upon credit requirements. He also stated that he had posted \$3 million with PJM to get started.

In hindsight, it looks like he was able to take advantage of PJM rules to create a massive FTR portfolio on only \$3 million of initial credit, and the hold collateral requirement of the portfolio is zero. Except that the portfolio is underwater by at least \$80 million so what is the point? Why throw away \$3 million? Is PJM's credit policy really wrong?

To find the answer to that you need to look at their secondary market transactions over the last two years. I was made aware of these transactions initially by Andrew Lee, one of my early hires, who came from Shell. While at Shell Andy did a secondary market transaction whereby Greenhat transferred a portfolio of long-term FTRs to Shell in exchange for cash, with the price determined at an agreed discount to whatever price those FTRs cleared at in the next auction. He wanted to know if we at

Roscommon wanted to do the same with Greenhat going forward. We decided against it, it seemed fishy. Instead, they have now done six such transactions, four with Shell and two with Edison Mission (that we know of through PJM's postings).

In hindsight, I think Greenhat's strategy relied on these secondary transactions to make their overall strategy profitable. They were lucky enough to have bought a small percentage of FTRs that actually went up in value over time. By selling these FTRs at a profit in the secondary market they were able to generate (we think) in excess of their initial \$3 million investment, paid to them directly outside the PJM system. Very simple - sell the winners in the secondary market at a discount to true value so you can collect the cash and put it in your pocket, and then walk away from the losers - to the tune of over \$80 million. That loss is to be socialized among all PJM market participants, of which we are one, so we are subject to losses. This is the only strategy that makes sense for them from the outset, otherwise, why throw away \$3 million?

I believe this is a classic case of market manipulation, taking advantage of market rules to defraud other participants. If you disagree, I would appreciate understanding why.⁶

Enforcement immediately opened an investigation and issued data requests to PJM, GreenHat, Shell, BETM, Moss Adams (GreenHat's auditors), Philip Zane (GreenHat's compliance officer), Christopher O'Donnell (GreenHat's valuation officer), Kevin McGowan (a friend of GreenHat's owners who solicited potential business partners), and several firms and individuals that GreenHat or McGowan contacted about possible transactions, including Matt Arnold, Roscommon Analytics, Andrew Lee, the Royal Bank of Canada, Koch Energy Services, and Matthew Berend.

In response to data requests, GreenHat produced a substantial volume of emails, spreadsheets, and other materials in the summer and fall of 2018. In late 2018, however, GreenHat failed to cooperate in making Kittell available for testimony.⁷ The

⁶ Hotline email (Roscommon_00001) (Email from K. Kelley to Enforcement Hotline) (June 25, 2018) (emphasis in original). Kelley later confirmed that the meeting took place in November 2016. See Email from K. Kelley to T. Olson (July 5, 2018); GH_0003113 (Emails from K. Greer to A. Kittell) (Nov. 5, 2016) (discussing meeting with Kelley).

⁷ GreenHat would not allow Kittell to testify unless Enforcement staff first produced materials from a third party. Although Enforcement normally provides respondents with third party materials at a later stage of an investigation, Enforcement staff concluded that GreenHat was not entitled to them at that stage. To receive

Commission issued an Order of Non-Public Formal Investigation (Docket No. IN18-9) on December 3, 2018, enabling Enforcement staff to issue subpoenas for documents and testimony. Thereafter, GreenHat refused to provide substantive responses to data requests seeking narrative responses.

In late 2018 and early 2019, Enforcement staff took testimony from Kittell, Bartholomew, and Ziegenhorn. Citing their Fifth Amendment right against self-incrimination, each of them declined to give substantive testimony.⁸ In a civil matter like this, the Commission may draw an adverse inference from a respondent's failure to testify.⁹

On July 21, 2020, staff provided GreenHat, Bartholomew, Ziegenhorn, and Kittell with a Preliminary Findings letter (PF Letter). On August 21, 2020, GreenHat and Kittell entered into a tolling agreement with staff that extended the running of the statute of limitations for 30 days beyond the otherwise applicable limitations period. Bartholomew and Ziegenhorn did the same on August 24, 2020. On September 21, 2020, GreenHat, Bartholomew, Ziegenhorn, and Kittell submitted a joint response to staff's PF Letter (GreenHat Response). The GreenHat Response attached a PowerPoint presentation on behalf of GreenHat and Kittell, copies of filings by GreenHat in another proceeding, and a declaration by Shawn Ledgerwood, an economist retained by GreenHat to assist in its defense.

On December 22, 2020, Enforcement staff made a settlement offer to GreenHat, Bartholomew, Ziegenhorn, and Kittell, to which they did not respond. On December 30, 2020, Enforcement staff provided notice to them under Section 1b.19 of the Commission's regulations, 18 C.F.R. § 1b.19 (2020), of its intent to recommend initiation of a public proceeding against them (1b.19 Letter). On January 25, 2021, Bartholomew and Ziegenhorn entered into tolling agreements that extended the running of the statute of limitations for an additional 60 days beyond the otherwise applicable limitations period. On February 10, 2021, counsel for Luan Troxel sent Enforcement staff a letter stating that Ms. Troxel had not yet been appointed as executor of Mr. Kittell's estate and that to the attorney's knowledge, no one was then authorized to act for GreenHat. Neither GreenHat nor the Kittell Estate has submitted a response to the 1b.19 Letter. On March 29, 2021, counsel for Bartholomew and Ziegenhorn told Enforcement staff that they would not be

cooperation credit under the Commission's Penalty Guidelines, the cooperation "must be both timely and thorough." FERC Penalty Guidelines § 1C2.3, Application Note 11. Cooperation credit is not warranted when, as happened here, a subject refuses to cooperate with a request for testimony based on such a demand.

⁸ Testimony of Andrew Kittell (Dec. 5-6, 2018); Testimony of Kevin Ziegenhorn (Jan. 23, 2019); Testimony of John Bartholomew (Mar. 21, 2019).

⁹ See, e.g., *Baxter v. Palmigiano*, 425 U.S. 308, 318-19 (1976); *SEC v. Colello*, 139 F.3d 674, 677 (9th Cir. 1998).

providing any additional response but would instead continue to rely on GreenHat's September 21, 2020 Response to Enforcement staff's PF Letter.

B. The Respondents

GreenHat was founded in July 2014 by Andrew Kittell, John Bartholomew, and Kevin Ziegenhorn for the stated purpose of engaging in "the lawful purchase and sale of Financial Transmission Rights ('FTR') and related products."¹⁰ Each GreenHat member had prior experience in energy markets and knew one another from their previous jobs at JP Morgan in Houston.¹¹ While at JP Morgan, Kittell and Bartholomew developed and implemented 12 trading strategies in the California ISO and (then-called) Midwest ISO between 2010 and 2012 that Enforcement determined to be manipulative. That conduct led to a \$410 million Commission-approved settlement between JP Morgan and Enforcement in 2013.¹²

GreenHat became a wholly-owned subsidiary of Off Fannin Holdings, LLC (Off Fannin) in March 2015 when the three traders formed Off Fannin.¹³ Off Fannin served as a vehicle for holding, and then distributing to its owners, profits from GreenHat's bilateral deals.¹⁴

¹⁰ KZ 000633 (Company Agreement, GreenHat Energy, LLC) (July 17, 2014).

¹¹ Andrew Kittell, LinkedIn, <https://www.linkedin.com/in/andrew-kittell-98333868/> (last accessed Mar. 17, 2021); John Bartholomew, LinkedIn, <https://www.linkedin.com/in/john-bartholomew-07739b150/> (last accessed Mar. 17, 2021); Kevin Ziegenhorn, LinkedIn, <https://www.linkedin.com/in/kevin-z-5a6b112/> (last accessed Mar. 17, 2021).

¹² *In re Make-Whole Payments and Related Bidding Strategies*, 144 FERC ¶ 61,068, at P 18; Stipulation and Consent Agreement, P 7 (2013) (naming Kittell and Bartholomew as two of the three "Principal Investments personnel" responsible for the JP Morgan bidding strategies that Enforcement identified as manipulative). Kittell and Bartholomew were not parties to the settlement, but the consent agreement stated that they were no longer involved in energy trading at JP Morgan. Stipulation and Consent Agreement, ¶ 7.

¹³ GH_0000329 (Off Fannin Holdings, LLC, Limited Liability Company Operating Agreement) (Mar. 13, 2015); GH_0000326 (Second Amended and Restated Company Agreement of GreenHat Energy, LLC) (Mar. 12, 2015); GH_0000041 (Email from A. Kittell to A. Lee) (June 14, 2016) (describing GreenHat as subsidiary of Off Fannin). Fannin is the name of a major street in downtown Houston.

¹⁴ See GH_0034042 (General Ledger showing movement of funds in and out of GreenHat accounts); GH_0010574 (Cash Waterfall showing funds transferred from GreenHat to Off Fannin and then to Kittell, Bartholomew, and Ziegenhorn).

Kittell provided the initial capital (\$3 million) for GreenHat,¹⁵ took the lead in most dealings with third parties (including Shell and PJM), and starting in January 2018 was the sole owner of the firm. Bartholomew managed GreenHat's trading: he registered GreenHat with PJM, was identified to PJM as both GreenHat's "trader" and as its Customer Account Manager (CAM), created the spreadsheets that GreenHat used to identify FTRs it could purchase while minimizing collateral, and signed a pledge agreement with PJM in June 2017 relating to GreenHat's false claim of a \$62 million debt from Shell.¹⁶ Ziegenhorn led many of the efforts to secure buyers for GreenHat and its FTRs, acted as the Risk Executive for GreenHat, and handled the transfer of FTRs to and from Shell.¹⁷ As the Risk Executive, Ziegenhorn was responsible for "manag[ing] the valuat[ion] and risk function" at GreenHat.¹⁸ Ziegenhorn also authorized wire transfers in and out of GreenHat's accounts.¹⁹

¹⁵ See, e.g., GH_0000326; GH_0010581 (Promissory Note) (Apr. 3, 2015) (Off Fannin promise to repay Kittell loan of \$3,500,000, superseding previous \$3,000,000 promissory note).

¹⁶ See, e.g., PZ_000008 (Memorandum from P. Zane to J. Bartholomew, A. Kittell, and K. Ziegenhorn, "PJM Minimum Participation Criteria Officer Certification Form") (Feb. 22, 2016) ("John is the trader for the firm."); PJM_052970 (Application for Membership Between PJM Interconnection, LLC and GreenHat Energy, LLC) (signed by Bartholomew on Aug. 15, 2014 and by PJM on Sept. 16, 2014) (membership agreement, which binds GreenHat to "pay all costs and expenses" it incurs under the Operating Agreement and PJM Tariff and in which GreenHat "agrees to accept the concepts and obligations set forth in . . . the Operating Agreement," is signed by Bartholomew as "Manager"); PJM_037744 (Email from W. Jew to K. Bazar) (Mar. 22, 2017) (Bartholomew was CAM Administrator); GH_0010153 (spreadsheet created by Bartholomew to determine which FTR paths meet lowest credit requirement); GH_0012235 (Partial Assignment and Pledge Agreement) (June 23, 2017) (signed by Bartholomew as "Manager" of GreenHat).

¹⁷ KZ 000633 (Company Agreement, GreenHat Energy, LLC) (July 17, 2014) (Ziegenhorn shown as "Risk Executive" in Exhibit C); *id.* at 2 ("Risk Executive" defined as Manager who "is independent of persons within the Company trading FTRs and responsible for meeting the requirements specified in PJM Tariff Attachment Q Appendix 1 representation 3b"); GH_0000379 (Email from GreenHat (Ziegenhorn) to F. Naccarati) (Aug. 22, 2016).

¹⁸ See PZ_000008 (Memorandum from P. Zane to J. Bartholomew, A. Kittell, and K. Ziegenhorn, "PJM Minimum Participation Criteria Officer Certification Form") (Feb. 22, 2016) ("I understand that Kevin manages the valuation and risk function . . .").

¹⁹ See, e.g., GH_0026245 (GreenHat Energy, LLC Wire Request) (Apr. 6, 2015).

Through mid-August 2017 (when Kittell moved to San Diego), GreenHat was run by its three owners out of an apartment at 3003 Memorial Court, Suite 1107, Houston, TX 77007.²⁰ GreenHat has produced relatively few written communications among the three owners through that time; it is a fair inference that the owners had most of their communications in person, without creating emails or other records. During the entire period of their joint ownership of GreenHat, the three owners shared a single email address—contact@greenhatenergy.com—enabling each of them to see all of the firm’s emails with third parties. The documents produced by GreenHat show that the three collaborated closely on all aspects of GreenHat’s business.²¹

In January 2018, Bartholomew and Ziegenhorn sold their interests in GreenHat to Kittell, with the proviso that all three would share in future profits.²² Kittell continued to run GreenHat thereafter. In the spring of 2018, Kittell negotiated a \$2 million deal with BETM, from which all three shared the profits.²³

C. PJM’s FTR Market

In addition to running Day-Ahead and Real-Time energy auctions every day, PJM conducts periodic auctions for FTRs, which are longer-term financial instruments whose returns depend on Day-Ahead congestion prices across a future period. An FTR makes or loses money based on the difference (or “spread”) between the congestion prices at two PJM nodes (the “source” and the “sink” of the FTR) during a specified future period:

²⁰ See, e.g., GH_0000080 (Email from A. Kittell to GreenHat) (Nov. 10, 2016) (signature block provides this as both Off Fannin’s and GreenHat’s address). Kittell sold his house in Houston in August 2017 and moved to San Diego. GH_0031030 (Email from A. Kittell to E. Chen (Aug. 31, 2017) (“I have actually moved to San Diego, California and sold my house in [H]ouston the week before the storm [Hurricane Harvey].”).

²¹ E.g., GH_0005602 (Email from K. Ziegenhorn to M. Arnold) (Sept. 11, 2017, 1:41 p.m.) (explaining bilateral trades to potential investor); GH_0012235 (Partial Assignment and Pledge Agreement) (June 23, 2017) (signed by Bartholomew on behalf of GreenHat). In addition, GreenHat’s privilege logs list numerous emails about the firm’s dealings with PJM, which were exchanged between Kittell, Bartholomew, and Ziegenhorn (on the one hand) and counsel (on the other hand). See Emails from counsel to general GreenHat email address / March 1 - June 30, 2017; Emails from Kevin Ziegenhorn to counsel / March 1 - June 30, 2017; Emails from general GreenHat email address to counsel March 1 - June 30, 2017.

²² GH_0011457 (Membership Interest Purchase Agreement) (Jan. 22, 2018).

²³ See pp. 32, 63-64 below.

a month, a quarter, a year, or a three-year strip.²⁴ Each type of FTR can be bought for peak hours only, off-peak hours only, or all hours.²⁵ Annual FTRs cover 12-month periods from June 1 through May 31, which is referred to as the “planning period.”

PJM administers the market for FTRs pursuant to its Tariff.²⁶ As GreenHat understood, an FTR holder neither receives from nor pays any money to PJM on an FTR until its settlement date, other than to satisfy the collateral requirements discussed below.²⁷

The economics of an annual 24-Hour (across both peak and off-peak hours) FTR, for example, depend on cumulative Day-Ahead congestion price differences between two nodes over the 8,760 (24 hours/day * 365 days/year) hours of a 12-month period. Whether an FTR is profitable or unprofitable for the holder depends on whether the Day-Ahead congestion price difference between the two nodes across the specified time period is higher or lower than the price at which the holder purchased the FTR.²⁸ If

²⁴ PJM Manual 6 § 1.2.1, Rev. 17 (June 1, 2016) (“The hourly economic value of an FTR Obligation is based on the FTR MW reservation and the difference between Day-ahead Congestion Prices at the sink point (point of delivery) and the source point (point of receipt) designated in the FTR.”). With the Commission’s approval, PJM eliminated Three-Year FTRs in August 2018. *PJM Interconnection, LLC*, 164 FERC ¶ 61,159 (2018). This Report describes the FTR market as it existed during the period when GreenHat traded in that market.

²⁵ “On-peak is a period of time when consumers typically use more electricity -- normally on weekdays, when many businesses are operating. PJM typically considers weekdays from 7 a.m. to 11 p.m. on-peak, except for the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.” PJM Glossary, <https://www.pjm.com/Glossary.aspx> (last visited Mar. 18, 2021).

²⁶ PJM Tariff, Attachment K-Appendix § 7 (authorizing PJM to conduct FTR auctions). See also PJM Tariff Schedule 9-2(a), <https://agreements.pjm.com/oatt/4411> (“Financial Transmission Rights Administration Service comprises all of the activities of PJM associated with administering the [FTRs] provided for under Tariff, Attachment K including, but not limited to, coordination of FTR bilateral trading, administration of FTR auctions, support of PJM’s on-line, internet-based FTR reporting tool, and analyses to determine what total combination of FTRs can be outstanding and accommodated by the PJM system at a given time. PJM provides this service to entities that hold FTRs or that submit offers to sell or bids to buy FTRs.”).

²⁷ See GH_0003692 (Email from A. Kittell to K. Wilks) (Apr. 15, 2016) (“We don’t pay anything to PJM for FTRs until settlement.”).

²⁸ PJM Manual 6 § 1.1 (Rev. 17, June 1, 2016) (“A Financial Transmission Right (FTR) is a financial instrument that entitles the holder to receive compensation for

congestion price spreads are higher than the FTR purchase price for any specific hour over the course of the settlement period, the FTR holder is credited for the difference; if lower, the FTR holder is charged the difference. PJM settles with the FTR holder on a weekly basis.

Utilities can use FTRs to protect themselves (or “hedge”) against future congestion. In addition, PJM permits financial firms such as GreenHat to trade FTRs for speculative purposes. FTRs are purely financial instruments: “[t]hey do not represent a right for physical delivery of power” and the “holder of an FTR is not required to deliver energy in order to receive a congestion credit.”²⁹ To participate in an FTR auction, a market participant must be a member of PJM and meet the credit requirements for the FTR.³⁰

In addition to being able to buy and sell FTRs in PJM auctions, market participants can also trade FTRs with each other directly, or “bilaterally.”³¹ As discussed below, GreenHat used bilateral transactions to generate immediate cash from in-the-money FTRs (i.e., FTRs in its portfolio that had a market value above GreenHat’s purchase price), even though the FTRs would not settle until months or years later. PJM provides a portal on its FTR Center through which market participants are required by the Tariff to record the transfer of ownership of an FTR from one party to another. PJM provides this portal so it can ensure that the buyers are creditworthy and can credit or charge the appropriate participant at settlement.³²

D. PJM’s Credit Requirements for FTR Trading

During the period relevant to GreenHat’s participation in PJM’s FTR market—September 2014 through June 2018—PJM calculated FTR credit requirements “based on FTR cost less a discounted historical value.”³³ The historical value of an FTR was

Transmission Congestion Charges that arise when the transmission grid is congested in the Day-ahead Market and differences in Day-ahead Congestion Prices result from the dispatch of generators out of merit order to relieve the congestion. Each FTR is defined from a point of receipt (where the power is injected onto the PJM grid) to a point of delivery (where the power is withdrawn from the PJM grid). For each hour in which congestion exists on the Transmission System between the receipt and delivery points specified in the FTR, the holder of the FTR is awarded a share of the Transmission Congestion Charges collected from the Market Participants.”).

²⁹ *Id.*

³⁰ *Id.* §§ 1.3, 6.6, 6.7; *see also* PJM Tariff, Attachment K-Appendix § 7.3.5.

³¹ PJM Manual 6 § 7.1 (Rev. 17, June 1, 2016).

³² PJM Tariff, Attachment K-Appendix § 5.2.2(d).

³³ PJM Tariff Attachment Q, § 5(B) (Jan. 18, 2016).

calculated using “the weighted monthly average historical value over three years for the path using the following weightings: 50% most recent year, 30% prior year; 20% second prior year.”³⁴ Enforcement here discusses the credit requirements as in force through June 2018, although PJM has since sought and obtained FERC approval to make changes to the requirements in the wake of GreenHat’s default.³⁵

During the relevant time period, PJM provided a Credit Requirements Calculator (Credit Calculator) on its website so that market participants could evaluate the credit requirements for their FTR bids before an upcoming auction.³⁶ The Credit Calculator is an Excel spreadsheet that calculated the user’s credit requirements after the user input information about its proposed purchases, such as the sink and source points for the FTRs, the bid quantity, and the bid price. The Credit Calculator then used those inputs to calculate, on a monthly basis, the difference between the historical value and the user’s bid price.³⁷

If the calculated historical value of a particular FTR was higher than the user’s bid price, the user did not need to post collateral to hold the FTR, beyond the minimum

³⁴ PJM Manual 6 § 6.7 (Rev. 17, June 1, 2016).

³⁵ See *PJM Interconnection, LLC*, 171 FERC ¶ 61,173, at P 35 (2020) (PJM Tariff changes to “enhance its rules for evaluating and managing credit risk posed by entities seeking to participate or participating in the PJM-administered markets”); *PJM Interconnection, LLC*, 167 FERC ¶ 61,002 (2019) (expanding authority to make collateral calls based on mark-to-auction valuations); *PJM Interconnection, LLC*, 164 FERC ¶ 61,215 (2018) (imposing minimum credit requirement for FTRs of \$0.10/MWh). See also PJM Credit Overview and Supplement to the PJM Credit Risk Management Policy at 29-30 (Apr. 2021), <https://pjm.com/~media/documents/agreements/pjm-credit-overview.ashx> (PJM now has 12-step process for calculating FTR credit requirements).

³⁶ PJM, Financial Transmission Rights, Credit Requirements Calculator, at <https://www.pjm.com/markets-and-operations/fttr.aspx> (last visited Mar. 18, 2021). PJM stopped offering the credit calculator in March 2020. PJM, *FTR Center –Credit Study Overview* (Mar. 2020), <https://www.pjm.com/~media/markets-ops/fttr/fttr-allocation/fttr-center-credit-study-overview.ashx> (last visited Sept. 18, 2020) (“Credit calculators will no longer be posted on FTR website. . . . Participants can submit bids to a Credit Study Market in FTR Center to calculate total credit requirement.”) Past versions of the Calculator are still available on PJM’s website at the address above.

³⁷ See GH_0003668 (“FTR Credit Calculator 2016-2017 (Dec 2015 Valuation)”) (last modified on Apr. 12, 2016).

amount required to participate in the FTR market at all (discussed below).³⁸ For instance, if a buyer bid \$1 for a FTR at a given path, and the historical value of that FTR was \$1.50, PJM did not require the bidder to post additional collateral. In some cases, as GreenHat discovered, a market participant could buy additional FTRs while reducing its overall credit requirement; PJM then returned the “excess” collateral to the market participant.³⁹

E. FTR Trading by Financial Traders

FTRs are profitable when the difference in Day Ahead congestion prices between two nodes over the relevant period (e.g., one year) is greater than the price at which the owner purchased the FTR. They are unprofitable if the reverse is true.

How congestion prices at particular nodes change—and therefore, whether a particular FTR is profitable or unprofitable—depends on a variety of factors, including:

- construction (or de-commissioning) of transmission lines
- addition (or removal) of generators,
- changes in load (because of population increases or decreases, changes in industrial activity, energy efficiency improvements, and the like),
- changes in fuel costs (e.g., coal and natural gas prices)
- introduction of wind or solar resources (which typically offer in at low prices)
- weather changes, and
- transmission and generation outages.⁴⁰

From a public policy perspective, congestion may indicate a market need, such as for additional generation or new transmission, or an inefficiency; in response, PJM may seek to reduce congestion via transmission improvements, as part of its Regional

³⁸ PJM Manual 6 § 6.7 (Rev. 17, June 1, 2016) (“the FTR Credit Requirement shall be the sum of the individual positive monthly subtotals, representing months in which net payments to PJM are expected.”).

³⁹ *See id.* (“Upon request, PJM will return to the participant any collateral that is no longer required for the FTR auctions; however, PJM reserves the right to establish a maximum frequency of returns, which maximum shall not be less frequent than once per calendar quarter.”).

⁴⁰ *See generally* Department of Energy, *National Electric Transmission Congestion Study*, <https://certs.lbl.gov/sites/all/files/natl-elec-trans-cong-study-2015-final.pdf> (last accessed March 17, 2021).

Transmission Expansion Plan (RTEP).⁴¹ In the RTEP process, PJM identifies which proposed transmission upgrades are cost-efficient by “conducting production cost simulations which show the extent to which congestion is mitigated.”⁴² In 2015, for example, PJM identified 11 proposed transmission upgrades designed to reduce congestion.⁴³

Due to the variety of factors that affect Locational Marginal Prices (LMPs) (including transmission upgrades) and the analytical complexity involved in modeling how congestion prices are likely to be affected, traders typically rely on sophisticated software to assist in analyzing those factors.⁴⁴ What these software solutions have in common is that they facilitate forecasting of future LMPs and congestion on a nodal basis. Employers seeking to hire FTR traders universally describe the FTR trading role to include performing power flow, congestion, and econometric analyses.⁴⁵

⁴¹ E.g., PJM, *Regional Transmission Expansion Plan (2015)*, <https://www.pjm.com/library/reports-notice/rtep-documents/2015-rtep.aspx> (2015) (last accessed March 17, 2021). PJM issues RTEP reports each year.

⁴² *Id.*, Book 1, at 3.

⁴³ *Id.*

⁴⁴ One software solution, for example, facilitates analysis of power flows, generation and transmission outages, derates, new generation and retirements, constraints, and shift factors, among other relevant sources of data. Cambridge Energy Solutions, EUCI Financial Transmission Rights Conference Presentation - FTR Trading Fundamentals & Tools, Information needed to Forecast LMP and Congestion, slides 34-36 (Jan. 2018), https://www.ces-us.com/download/Reports_and_Publications/Zobian%20EUCI%202018%20Presentation.pdf (last accessed Mar. 18, 2021); *see also* Nodal Analysis – [company name], <https://energyexemplar.com/software/nodal-analysis> (last accessed Mar. 18, 2021) (another software product enables users to plan FTR trading through nodal analysis, using generation and load profiles and enabling LMP and congestion forecasting at the zonal and nodal level).

⁴⁵ *See, e.g.*, Trader – FTR – Energy Transfer Partners LP Careers, <https://energytransfer.referrals.selectminds.com/ETP/jobs/trader-ftr-1515> (last accessed Mar. 18, 2021) (requesting skill in “Large data analytics, including power flow systems and/or production cost modeling programs”); Nodal (FTR/CRR) Trader – Salthill Group, <https://www.salthillgroup.com/nodal-ftr-crr-trader/> (last accessed Mar. 18, 2021) (“The focus of the position is to construct an FTR / CRR / TCC portfolio for an assigned ISO to leverage congestion risk with trades rooted in the fundamentals (deep understanding around power system economics and power flow drivers).”); PJM FTR Trader - Boston Energy Trading and Marketing,

Reflecting the importance of understanding these factors, Kevin Kelley told the Commission in his June 2018 email that when he spoke with Kittell in 2016, Kelley’s “radar went off when [he] asked who was doing [GreenHat’s] power flow analysis, an absolute requirement to have any success in FTR investing—and [Kittell] said he had no one doing it, [GreenHat wasn’t] looking at fundamentals, just strictly buying based upon credit requirements.”⁴⁶

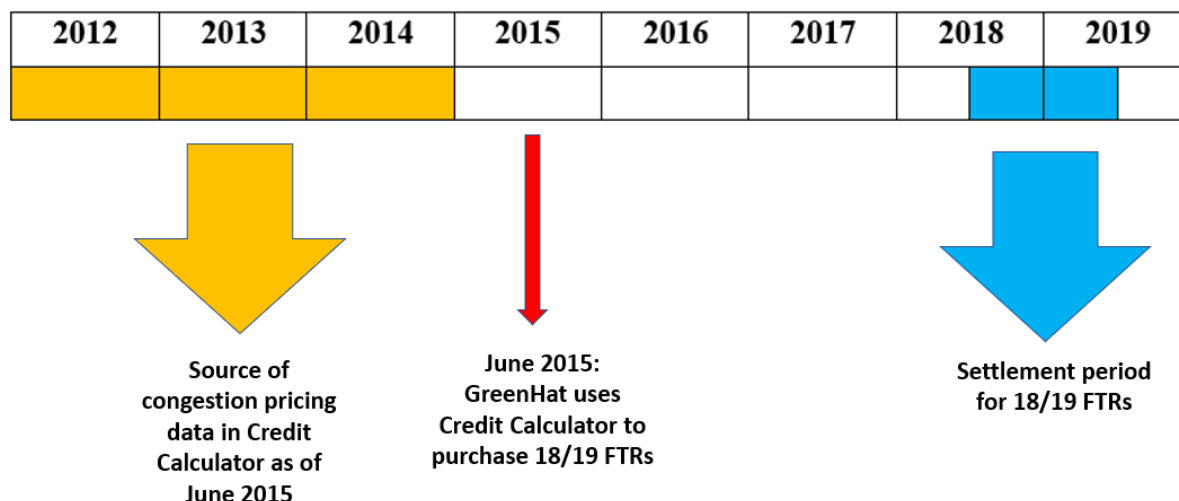
For nearly the entirety of GreenHat’s scheme (from June 2015 through mid-April 2018), PJM’s Credit Calculator incorporated no data of any kind about likely future congestion changes. Instead, the Credit Calculator was based entirely on congestion prices during the three preceding calendar years. As discussed below, GreenHat has affirmatively touted that it selected FTRs by using the Credit Calculator to find the FTRs with the smallest possible collateral requirement. As a result, when GreenHat used the Credit Calculator to select FTRs to purchase in June 2015 for planning year 18/19, the numbers in the Calculator were based entirely on prices from January 2012-December 2014. In other words, in addition to giving no consideration to any potential future events when it purchased FTRs, GreenHat ignored any developments in the market that had occurred in the immediately preceding five months.⁴⁷ Figure 1 illustrates this point:

https://workforcenow.adp.com/mascsr/default/mdf/recruitment/recruitment.html?cid=a40bba2c-5e18-47c6-bfa2-559d822580de&ccId=2555974796_1538&type=MP&lang=en_US&selectedMenuKey=CurrentOpenings (last accessed Mar. 18, 2021) (“The role of the PJM FTR Trader is research and modelling of supply and demand fundamentals and grid congestion in nodal ISO markets, and deploying trading capital to make profitable FTR trading decisions”).

⁴⁶ Hotline email (Roscommon_00001) (Email from K. Kelley to Enforcement Hotline) (June 25, 2018) (emphasis in original).

⁴⁷ Although congestion prices for the first five months of 2015 were publicly available when GreenHat bought 18/19 FTRs in June 2015, those data were not in the Credit Calculator at that time. Because congestion prices are calculated hourly, five months in that market created a substantial volume of valuable recent data that GreenHat could have considered, but did not.

Figure 1



GreenHat has offered no evidence, and Enforcement staff is aware of none, supporting the idea that a rational trader would ever buy financial instruments—much less accumulate the largest portfolio in an entire market—exclusively based on stale pricing information from as much as seven years before the time when the instruments settle.

INVESTIGATIVE FINDINGS

We begin, in Section III, by providing an overview of the scheme that GreenHat implemented starting in June 2015: a strategy in which GreenHat acquired an enormous volume of FTRs for which the evidence indicates GreenHat never intended to pay, and then extracted money from the FTR portfolio by selling in-the-money FTRs to third parties for cash before its planned default.

Section IV describes what GreenHat did between September 2014 and May 2015, the period leading up to its manipulative scheme. Finally, Section V explains how GreenHat implemented its scheme between June 2015 and May 2018, and describes several ways in which GreenHat enhanced the profitability of its scheme through other forms of fraudulent conduct. To assist the reader throughout, a succinct timeline of events is included as Attachment A.

III. OVERVIEW OF GREENHAT'S FTR TRADING SCHEME

In this section, we discuss the heart of GreenHat's FTR scheme: acquiring assets for which it did not intend to pay at settlement, and instead using the assets to generate cash before payments come due.⁴⁸

The key elements of GreenHat's scheme were as follows:

⁴⁸ *E.g., Crockett*, 534 F.2d at 592; *see* cases cited at pp. 73-74 below.

- Amass a huge FTR portfolio based not on market fundamentals but on acquiring FTRs with virtually no upfront cash;
- Buy only long-term FTRs, to allow ample time to sell the profitable FTRs to third parties;
- Plan to default at settlement; and
- Generate cash for GreenHat's owners by selling in-the-money FTRs to third parties at a discount.

The following sections discuss those four elements in turn.

1. **Buy Massive Volumes of FTRs Based on Minimizing Collateral, Not on Market Fundamentals**

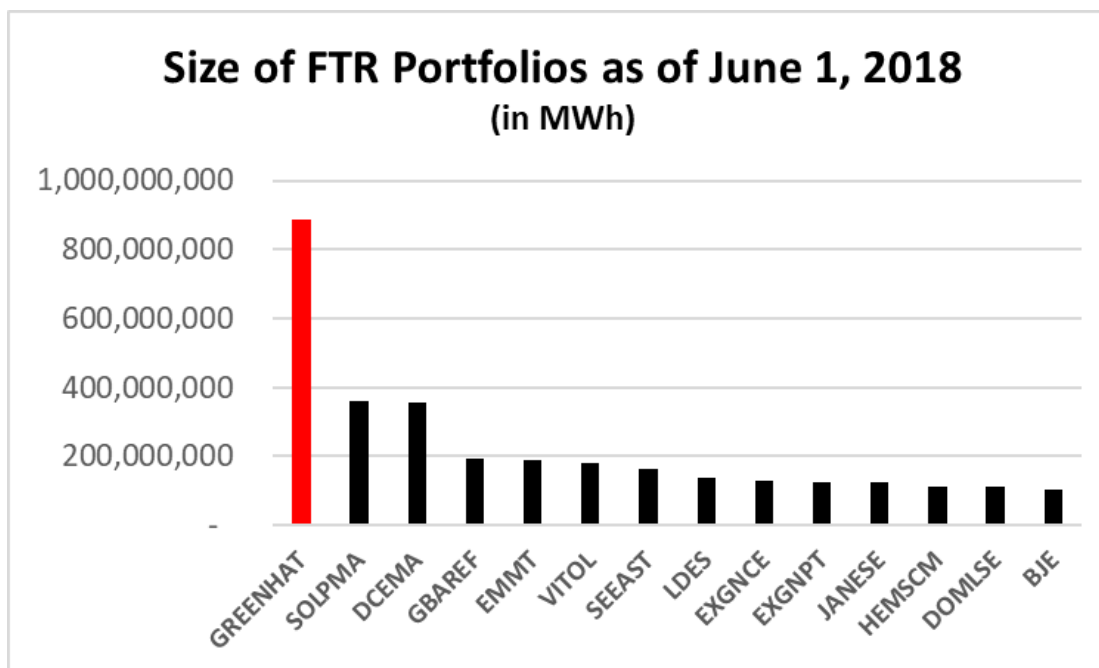
GreenHat's owners built a huge FTR portfolio without conducting any market analysis or otherwise evaluating the FTRs' attractiveness as investments. Instead, by its own admission,⁴⁹ GreenHat simply bought FTRs it could acquire with zero (or minimal) upfront cash.

As Figure 2 shows, by the time it defaulted in June 2018, GreenHat's FTR portfolio was not only the largest in PJM, but dwarfed the second-biggest portfolio. At the time of default, GreenHat's portfolio was 24% larger than its next two largest competitors *combined*.⁵⁰

⁴⁹ E.g., GreenHat Response, Attachment 1, at 10; *see* pp. 81-83 below.

⁵⁰ PJM_088452 (Excel spreadsheet showing FTR holdings and collateral of largest 15 portfolios in PJM over time).

Figure 2



Both the words and the actions of GreenHat’s owners show that they built this huge portfolio by choosing FTRs based solely on collateral requirements—that is, they chose what FTRs to buy based on what they could acquire without putting their own money at risk, and in some cases by actually reducing the amount of collateral they were required to deposit.⁵¹

First, GreenHat’s owners told potential business partners exactly that. As the Hotline email quoted above shows, for example, in 2016 Kittell told Kevin Kelley, the head of another FTR trading firm (Roscommon), that GreenHat was buying FTRs “based upon hold collateral requirements only.” When pressed by Kelley, Kittell confirmed that GreenHat “[wasn’t] looking at fundamentals,” but was instead “strictly buying based upon credit requirements.”⁵²

Second, a potential business partner, Matt Arnold, wrote an email on September 5, 2017 describing what he had learned about GreenHat from an in-person meeting with Ziegenhorn and Bartholomew that day. Among other things, Arnold wrote that GreenHat’s strategy was to “exploit an arb in the way PJM calculates credit reserve

⁵¹ As Figure 3 and Figure 4 below show, GreenHat found ways to lower its collateral requirement—and to obtain returns of collateral deposits from PJM—even as it massively expanded its portfolio.

⁵² Hotline email (Roscommon_00001) (Email from K. Kelley to Enforcement Hotline) (June 25, 2018).

requirements” to amass “a giant leveraged long position.”⁵³ The circumstances behind that email are as follows.

In September 2017, Ziegenhorn, through a former JP Morgan colleague named Kevin McGowan, approached Arnold about a possible acquisition of GreenHat. Because Arnold was not an expert on FTRs, he sought advice from an energy trader friend named Paolo Dadone, sending him emails describing what he had learned from GreenHat.

On September 5, 2017, Arnold met with Ziegenhorn and Bartholomew in person to discuss a possible business relationship.⁵⁴ The following is the full text of Arnold’s September 5, 2017 email to Dadone, describing what he had learned about GreenHat from his meeting that same day. The only information that Arnold had about GreenHat’s business was what he learned from its owners. In this email, Arnold uses “ATM” to mean “at the money” (i.e., showing no gain or loss), “ITM” to mean “in the money” (showing a market gain), and “OTM” to mean “out of the money” (showing a market loss).

It's three guys who put the portfolio together to exploit an arb in the way PJM calculates credit reserve requirements. Basically they could buy an FTR that was trading at a level under its PJM credit reserve (calculated on prior years pricing) and instantly have a position that was ATM from market price perspective but PJM would view it as ITM from a credit perspective. So PJM would issue them collateral that they could use to buy more FTRs. So basically it is a giant leveraged long position.

PJM eventually figured it out and they negotiated an agreement where some of their premium from bilateral sales would accrue to a credit reserve. There are no option positions per se, only an asymmetric payout profile. **If the portfolio ever goes OTM to an extent that exceeds the credit reserve, they just shut down the LLC and walk away.** But if there is

⁵³ MA-0000000062 (Email from M. Arnold to P. Dadone) (Sept. 5, 2017, 6:03 p.m.). The term “arb” here is short for arbitrage. While arbitrage is strictly defined as the purchase and sale of an asset at beneficial prices across different markets, it is often colloquially used by traders to refer to a market scenario susceptible to profitable exploitation.

⁵⁴ MA-0000000062 (Email from M. Arnold to P. Dadone) (Sept. 5, 2017, 11:06 p.m.) (“Met with the guys selling the portfolio today. Should have access to the full data set soon but it's pretty big, I think around 40k positions and maybe 8k paths over three years.”). Kittell had moved to San Diego the previous month (*see* p. 10 above), so the in-person meeting was with Ziegenhorn and Bartholomew.

extreme weather event or otherwise congestion prices spike, there is upside. Portfolio is almost entirely long except for some bilateral sales.⁵⁵

As noted above, the email describes GreenHat's FTR strategy as "exploit[ing] an arb in the way PJM calculates credit reserve requirements." The remainder of that paragraph discusses acquisition of FTRs based on credit requirements, and says nothing about evaluating FTRs based on expected profitability. We discuss other passages in Arnold's September 5, 2017 email below. That two different third parties, after meeting with GreenHat's owners, reported the same understanding—that GreenHat chose FTRs based on minimizing collateral—makes it reasonable to infer that the third parties were describing what GreenHat told them.⁵⁶

Third, as discussed below (at pp. 81-83), GreenHat's response to Enforcement staff's PF Letter expressly confirms this point. Specifically, GreenHat concedes that it chose what FTRs to purchase by extracting data from the Credit Calculator about collateral requirements and then using a Microsoft Excel tool, called Solver, to analyze those data to find the set of FTRs that would result in the lowest possible collateral requirement.⁵⁷ While GreenHat now claims (long after the fact) that its owners viewed minimizing collateral as a method of finding profitable FTRs, there is no contemporaneous evidence that this is true. To the contrary, as just discussed, the evidence in the record shows that GreenHat's owners told two different third parties that their goal was simply to minimize collateral. As discussed next, their behavior confirms that point.

Fourth, GreenHat's conduct shows that while it used the Credit Calculator to select FTRs that would minimize its collateral obligations, it did *not* use the Credit Calculator to *value* FTRs. When it tried to sell FTRs to third parties, for example, GreenHat never portrayed them as attractive based on Credit Calculator values, which were based on out-of-date congestion prices across the previous three years. Rather,

⁵⁵ MA-0000000062 (Email from M. Arnold to P. Dadone) (Sept. 5, 2017, 6:03 p.m.) (emphasis added).

⁵⁶ "[A] defendant's intent to defraud can be inferred from the totality of the circumstances and the actions of the parties." *United States v. Tager*, 788 F.2d 349, 353 (6th Cir. 1986); *see also Willis v. Big Lots, Inc.*, 2016 WL 8199124, at **30-31 (S.D. Ohio Jan. 21, 2016) (applying "totality of the circumstances" test to determine whether plaintiffs "adequately alleged scienter" in securities fraud suit).

⁵⁷ *E.g.*, GreenHat Response, Attachment 1, at 10; *see* pp. 81-83 below.

GreenHat sought to sell FTRs to third parties based on their profitability as shown by the most recent prices set in PJM auctions.⁵⁸ Here is an example of those emails:⁵⁹

From: Andrew Kittell <andrew@off-fannin.com>
Sent: Monday, January 30, 2017 12:17 PM
To: Curry, Mike
Subject: GreenHat PJM FTR Portfolio
Attachments: GreenHat CITI Attachment.xlsx

Good Morning Mike,

I have attached a FTR portfolio for your review. The portfolio consists of approximately 4,500 MWs of PY 18/19 and 3,400 MWs of PY 19/20 FTRs with a combined forward value of \$48.3 million using the most recent auction prices. Our proposal is to transfer the portfolio to Citi via the PJM FTR Center in exchange for an agreed upon upfront cash payment. As discussed previously, we are happy to consider other mechanics to better manage market risk.

I am available to discuss any details at your convenience.

Best Regards,

Andrew Kittell
Managing Member
Off Fannin Holdings LLC
GreenHat Energy LLC

⁵⁸ E.g., GH_0014369 (Email from A. Kittell to D. Seff) (Feb. 12, 2018, 10:23 a.m.) (“GreenHat is looking to sell an ‘in-the-money’ portfolio of PJM FTRs for the purposes of raising working capital”); GH_0012895 (Email from A. Kittell to A. D’Agostino) (Feb. 1, 2018) (“I have attached an updated letter agreement and attachment. Also for your convenience, I attached a version of the attachment with the Purchase Price calculated using the last auction prices.”); GH_0004620 (Email from A. Kittell to M. Curry) (Jan. 30, 2017) (“I have attached a FTR portfolio for your review. The portfolio consists of approximately 4,500 MWs of PY 18/19 and 3,400 MWs of PY 19/20 FTRs with a combined forward value of \$48.3 million using the most recent auction prices.”); GH_0004125 (Email from A. Kittell to A. D’Agostino) (Nov. 7, 2016) (“This sheet provides a direct link between the last auction prices and the portfolio I sent you earlier.”); GH_0004020 (Email from A. Kittell to A. D’Agostino) (Oct. 7, 2016) (“The attached spread sheet now includes a summary of the portfolio including the resulting matched book assuming the portfolio is sold at the last auction clearing prices.”); GH_0003939 (Email from A. Kittell to M. Egan) (Sept. 23, 2016) (“This is an actual portfolio that Green Hat could transfer prior to the next long-term auction if the parties come to an agreement. We selected it because it has an approximate future value vs the latest auction results of approximately \$25 million.”); GH_0005114 (Email from A. Kittell to A. Lee) (June 14, 2016) (“the most recent MCPs” [market clearing prices] for

Similarly, GreenHat's consummated deals (with Shell and BETM) did not use Credit Calculator values for any purpose; instead, the key component for determining the Initial and Final Purchase Price in the Shell deals was the price at which the FTRs cleared in the PJM auction.⁶⁰ GreenHat's attempted 2018 deal with Koch makes the point even more clearly: as GreenHat admits, when it offered to accept a package of FTRs from Koch, its offer (to be paid \$90,000) was premised on valuing the FTRs at *negative* \$90,000; the Credit Calculator value for those same FTRs, by GreenHat's own admission, was radically different: *positive* \$594.⁶¹

Other elements of GreenHat's conduct also showed that GreenHat did not consider the Credit Calculator to be a tool for selecting profitable FTRs, as opposed to ones it could acquire effectively for free. GreenHat's own documents show that in September 2017, both Kittell and Bartholomew calculated the then-current mark-to-auction value of GreenHat's FTR portfolio—which it had built by using the Credit Calculator to minimize its collateral requirements. Here are the relevant excerpts from Kittell's September 2017 mark-to-auction calculations, showing a loss of nearly \$27 million on its 18/19 FTRs and of more than \$9 million on its 19/20 FTRs:

SPREADSHEET CREATED BY JOHN BARTHOLOMEW
AND MODIFIED BY ANDREW KITTELL
GH_0020751.xlsx

LAST MODIFIED SEPT. 17, 2017

<u>ALL ACP 18</u>	+	\$ 10,861,613
	-	\$ (37,749,641)
	Net	\$ (26,888,028)

<u>ALL ACP 19</u>	+	\$ 3,182,213
	-	\$ (12,865,433)
	Net	\$ (9,683,219)

<u>ALL ACP 20</u>	+	\$ 145,097.14
	-	\$ (78,243.85)
	Net	\$ 66,853.29

TOTAL -\$36,504,394

"ACP" = Auction Clearing Price

the FTRs in the attached list "are more than \$1,000 greater than the original auction prices").

⁵⁹ GH_0004620.

⁶⁰ E.g., First Shell Agreement, GH_0004546, ¶¶ 2(b), 2(d) (setting Initial and Final Purchase Price based on market clearing prices).

⁶¹ GreenHat Response at 11.

Kittell and Bartholomew each separately calculated that GreenHat's FTR portfolio then had a market value of approximately -\$36 million.⁶² GreenHat's owners thus knew that purchasing FTRs by minimizing collateral was resulting in tens of millions of dollars in losses. Despite that first-hand knowledge, GreenHat continued to use the collateral-minimizing Credit Calculator method in choosing what FTRs to purchase: in December 2017, GreenHat bought more than 148 million MWh of 18/19, 19/20, and 20/21 FTRs.⁶³ Here is a screenshot showing that GreenHat used the Solver function in Excel in late November 2017 to choose the set of FTRs it would purchase in the December 2017 auction by minimizing the overall collateral from its planned purchases:⁶⁴

GreenHat uses Excel tool called "Solver" to select set of FTRs that will minimize a specific value

Last Modified 11/21/2017 9:28 PM

Created 3/2/2015 11:58 AM

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AK

Andrew Kittell

Add an author

Last Modified By

JB

John Bartholomew

November 21, 2017 (shortly before December 2017 Long Term Auction)

Value minimized is required collateral

Fifth, that GreenHat's goal was simply to minimize its collateral is confirmed by comparing the size of its portfolio to the amount of collateral it had on deposit with PJM. As its portfolio grew by a factor of 71 from June 2015 to May 2018, from 12.5 million

⁶² GH_0020751 (Kittell spreadsheet); see Exhibit 372 (summary of Kittell spreadsheet); GH_0020740.xlsx (Bartholomew spreadsheet); Exhibit 377 (summary of Bartholomew spreadsheet).

⁶³ PJM_Data_Extract_00001_GreenHat Activity in PJM Auctions.

⁶⁴ GH_0020267.

MWh to 889 million MWh,⁶⁵ GreenHat's cash deposits shrank by a factor of nine, from \$5 million to \$559,447.⁶⁶ Figures 3 and 4 show these trends:

⁶⁵ The 889 million MWh figure deducts GreenHat's sales of FTRs in PJM auctions or bilaterally, and is therefore slightly lower than the total acquisition figure in the chart on the next page.

⁶⁶ FTR market participants are required to post not only "hold collateral" (for FTRs that the firm owns) but also "bid collateral" (to cover all of the bids the firm submits to an auction, on the assumption that all the bids will clear). The blue bars in the second chart, from GreenHat Energy LLC Collateral History.xlsx, show the amounts of collateral that GreenHat had on deposit with PJM over time. The red bars, from PJM_076714, show the amounts of collateral that GreenHat was *required* to post over time based on the FTRs it owned or bid on. The spikes in the red bar reflect the fact that GreenHat had to post more bid collateral before auctions to satisfy bid collateral requirements.

Figure 3

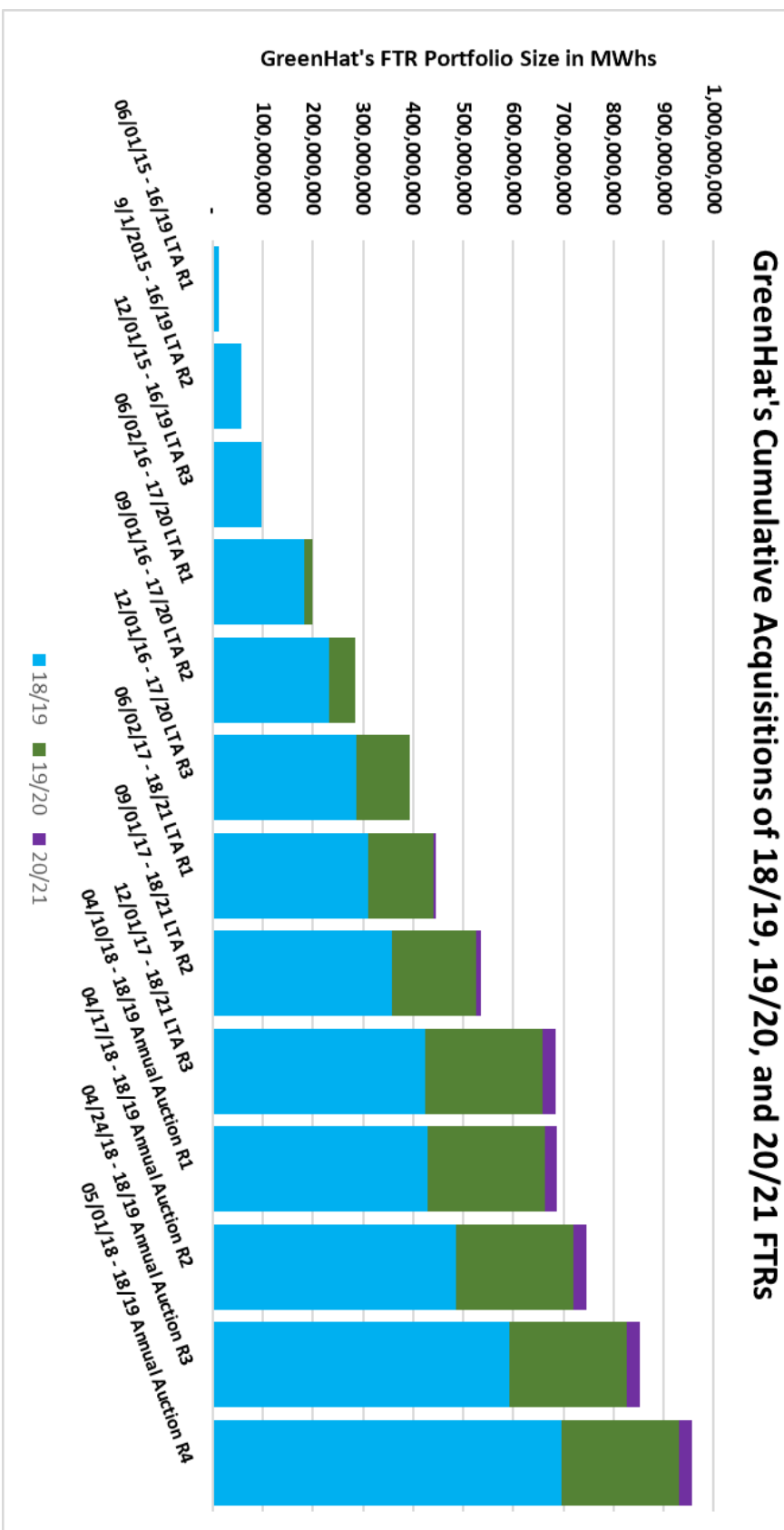
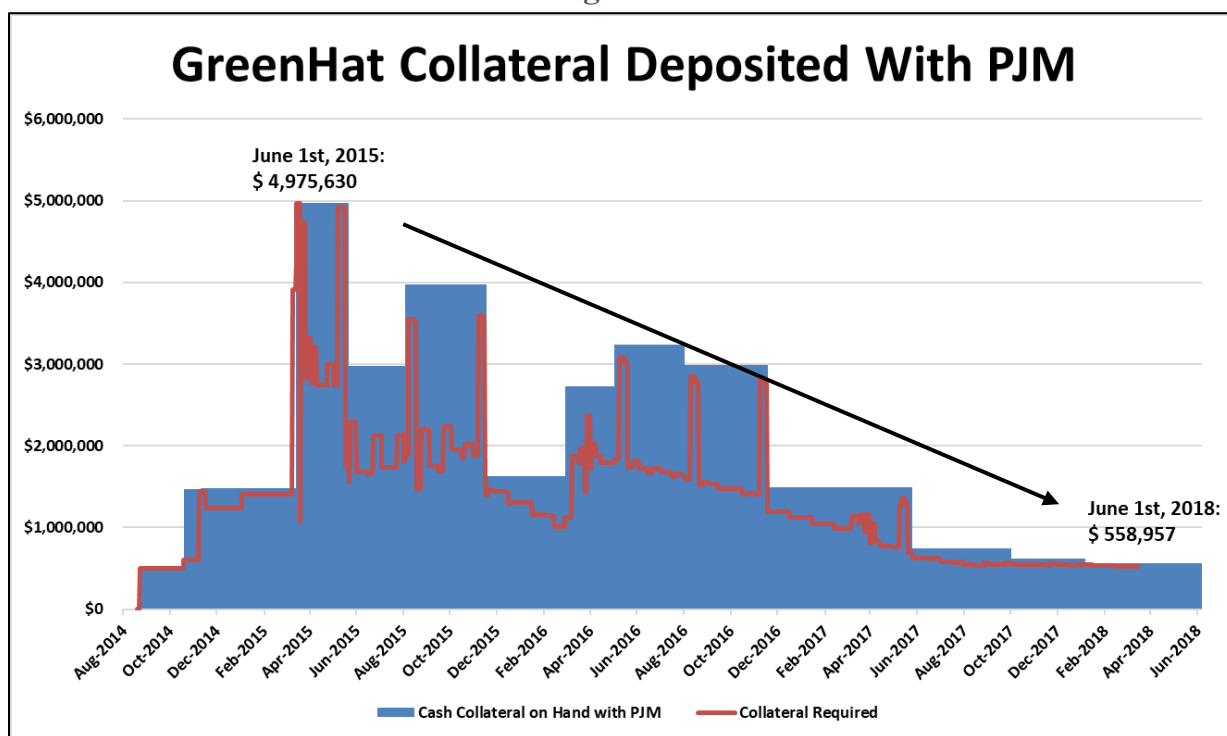


Figure 4



That is, by buying FTRs based on minimizing collateral, GreenHat went from posting 40 cents of collateral per MWh in June 2015 to posting less than 1/16th of a penny of collateral per MWh in June 2018. In June 2018, the top 10 FTR holders (other than GreenHat) had posted an average of 23 cents/MWh in collateral, or approximately 368 times the amount per MWh posted by GreenHat.⁶⁷

Sixth, in deciding what FTRs to bid on, and what price to bid, GreenHat did not use any information relevant to assessing future congestion changes. The spreadsheets that GreenHat used in deciding what FTRs to bid on did not consider any data about fundamentals, such as expected future changes in generation, transmission, or load, or their impact on congestion prices.⁶⁸ Instead, GreenHat looked only at past PJM data. GreenHat’s strategy for deciding how to price its bids was similarly untethered to the expected value of particular FTRs as investments: it simply applied mechanical formulas (such as “bid 10% above the most recent auction clearing price”) across the board.⁶⁹

Finally, in presentations to potential investors, GreenHat disparaged research about fundamentals (“knowing about future disruptive events ahead of the market”) as

⁶⁷ PJM_088452; GreenHat Energy LLC Collateral History.xlsx.

⁶⁸ For an example of these spreadsheets, see GH_0020307.

⁶⁹ *Id.* Appendix C provides more detail about GreenHat’s bidding techniques.

“inside information” of “low value” that GreenHat did not use or need in its investing strategy.⁷⁰

2. Buy Only Long-Term FTRs to Allow Ample Time to Sell the FTRs to Third Parties

In its purchases in late 2014, GreenHat bought FTRs that would begin to settle as little as six months later. As discussed below, GreenHat lost money on these FTRs when they settled starting in June 2015, and over time had to pay more than \$2 million into PJM to cover the losses. Starting in June 2015, therefore, GreenHat took a different approach: buying only FTRs that would settle far in the future.⁷¹

Kittell explained this to Kevin Kelley, the head of another FTR trading firm, in September 2016: GreenHat “focus[ed] on the long term FTR markets, at that point *only the furthest year out*.”⁷² As Figure 5 shows, PJM’s records of GreenHat’s FTR purchases confirm that this was GreenHat’s consistent practice starting in June 2015.⁷³

Buying only long-term FTRs had two advantages for GreenHat’s scheme. *First*, it ensured that GreenHat could avoid the costly obligation to pay for losing FTRs that were settling quickly—a lesson it learned from its initial FTR purchases. *Second*, it gave

⁷⁰ GH_0004094, Passive Investing PJM FTR Market (Powerpoint presentation directed at potential investors) (Oct. 21, 2016). GreenHat’s Powerpoint said that “disruptive events” can arise from “changes in weather, fuel prices, transmission resource[s] and generation resources.” *Id.* In addition, the finder of fact may draw adverse inferences from Kittell’s refusal to answer questions about whether GreenHat’s strategy was to buy FTRs that it could effectively acquire for free. Kittell Test. Tr. 407.

⁷¹ GreenHat varied from this strategy only in the final months before default, when it engaged in a massive purchase of Annual FTRs to reduce its collateral obligations and avoid being declared in default. *See* pp. 90-91 below.

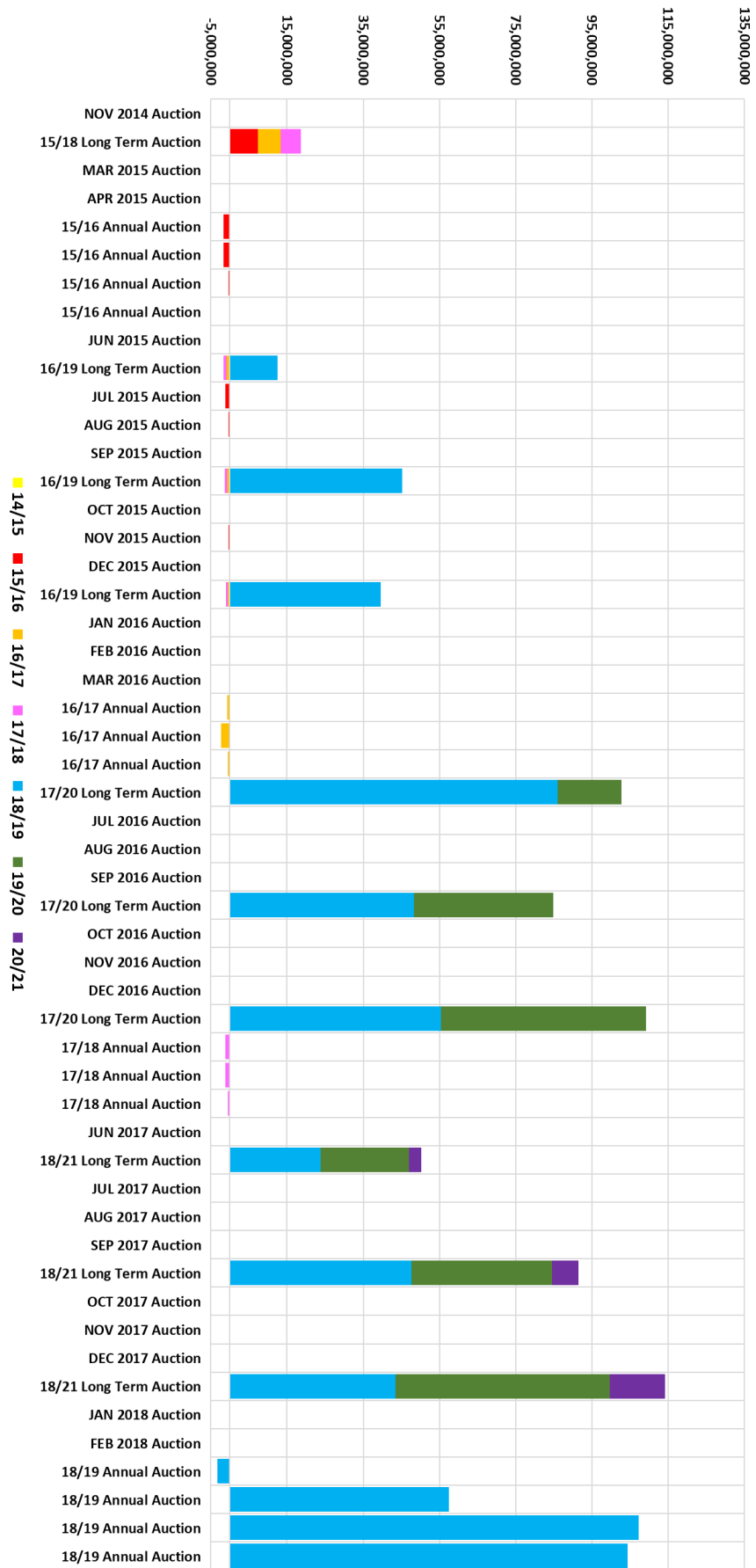
⁷² Hotline email (Roscommon_00001) (Email from K. Kelley to Enforcement Hotline) (June 25, 2018) (emphasis added).

⁷³ PJM_Data_Extract_00001_GreenHat Activity in PJM Auctions. The light and dark orange bars in 2015 reflect sales of FTRs that GreenHat acquired in December 2014. Note particularly that in the 16/19 Long Term Auction, GreenHat bought only 18/19 FTRs.

GreenHat ample time to sell in-the-money FTRs to third parties for cash before settlement.

Figure 5

GreenHat's FTR Auction Net Purchases in MWh Delivery Years (e.g., 2018-19) Stacked



3. No Intent to Pay What the Firm Owes

The record as a whole shows that GreenHat did not intend to pay what it owed—or, for that matter, pay any material amount—if its portfolio of long-term FTRs settled at a loss starting in June 2018.

First, from the start of the scheme in June 2015, GreenHat ensured that it had minimal funds on deposit with PJM.⁷⁴ As discussed above, its sole criterion for purchasing FTRs was minimizing its collateral, and it was extraordinarily successful in doing so. By the time of its default, which has cost other PJM members \$179 million, GreenHat had only \$59,447 on deposit with PJM beyond the minimum \$500,000 required to be a PJM member. On a per-MWh basis, GreenHat’s collateral amounted to 1/368 the collateral posted by the other largest FTR holders, all of whom had smaller FTR portfolios than GreenHat.⁷⁵

Second, GreenHat’s owners made sure that the company would have no *other* funds available with which to satisfy even a portion of its eventual default. Most notably, when PJM contacted GreenHat on March 17, 2017 about a potential collateral call—which would likely lead to default—the *very next day* GreenHat’s owners met on a Saturday to authorize movement of all of the funds in GreenHat’s account (\$5.8 million) into the account of its parent company, Off Fannin.⁷⁶ By April 4, 2017, the owners had moved almost all of those funds from Off Fannin into their personal accounts.⁷⁷

GreenHat likewise acted quickly to transfer the proceeds of the third Shell deal into its owners’ accounts. On June 16, 2017, Shell paid GreenHat the Final Purchase Price of \$4,368,171 on that deal.⁷⁸ That same day, GreenHat moved virtually all of that

⁷⁴ Enforcement Staff does not allege that GreenHat posted less collateral than was required by the PJM Tariff. As the Commission has explained, its Anti-Manipulation Rule is not limited to tariff violations. *E.g., Richard Silkman*, 144 FERC ¶ 61,164, at P 50 n.120 (2013) (“[A]s Order No. 670 emphasizes, fraud is a question of fact to be determined by all the circumstances of a case, not by a mechanical rule limiting manipulation to tariff violations”) (citation omitted).

⁷⁵ See p. 27 above.

⁷⁶ GH_0016019 (“Off Fannin Holdings, LLC (‘Off Fannin’) hereby authorizes its subsidiary GreenHat Energy LLC (‘GreenHat’) to make a distribution of \$5,820,357.48 to Off Fannin. . . . Ownership of the funds shall transfer immediately.”) (Mar. 18, 2017).

⁷⁷ See GH_0034042, Off Fannin account tab.

⁷⁸ GH_0034042, PJM Settlement Accounts tab.

money to Off Fannin.⁷⁹ Between July 10 and July 17, 2017, Off Fannin transferred approximately \$4.9 million to Kittell, Bartholomew, and Ziegenhorn.⁸⁰

When money came into GreenHat for its next (and final) bilateral deal—\$2 million from BETM on March 23, 2018—GreenHat did the same thing. As default loomed only weeks away, Kittell transferred the \$2 million proceeds from BETM out of GreenHat’s bank account only six days after the money came in. Less than two weeks later, and only six weeks before GreenHat’s imminent (and expected) default,⁸¹ GreenHat distributed nearly all of the BETM proceeds to the three (current or former) owners on April 23, 2018.⁸²

In short, while falsely assuring third parties that its goal in selling FTRs in bilateral trades was to give GreenHat “proceeds to support our business today,”⁸³ and falsely telling BETM that its business purpose was “to raise cash for the upcoming Annual auction in April,”⁸⁴ GreenHat’s owners in fact emptied GreenHat’s accounts and put the cash into their own pockets. By doing so, they left the firm unable to cover any of its historic default beyond the \$559,447 left in its PJM account in June 2018. In short, GreenHat’s owners took repeated and deliberate steps to ensure that the firm would be unable to meet its obligations to PJM upon default.

The intent shown by the GreenHat owners’ actions is confirmed by what a potential investor, Matt Arnold, reported about his September 2017 meeting with Ziegenhorn and Bartholomew. As discussed above, GreenHat’s owners were Arnold’s

⁷⁹ GH_0034042, Off Fannin Operations Account tab.

⁸⁰ *Id.*

⁸¹ Kittell had personally calculated in September 2017 that GreenHat’s portfolio was more than \$36 million underwater. *See* p. 24 above.

⁸² On April 11, 2018, GreenHat transferred \$1.85 million to Off Fannin. GH_0034042, Off Fannin Operations Account tab. On April 23, 2018, Off Fannin transferred \$499,500 apiece to Bartholomew and Ziegenhorn and \$851,000 to Kittell. *Id.*

⁸³ GH_0002632 (Email from A. Kittell to M. Egan) (Sept. 14, 2016).

⁸⁴ BETM_00000228.0001 (internal BETM Powerpoint describing what GreenHat claimed were its “deal motivations”) (Mar. 15, 2018). In its Response to staff’s PF Letter, GreenHat continues to falsely assert that the purpose of its bilateral deals was to raise money for the company’s business. GreenHat Response, Attachment 1 at 4 (“GreenHat sought liquidity to expand its business by soliciting potential investors and seeking to sell FTRs.”) (emphasis added).

only source of information about the company’s business. In his email describing what he learned at the meeting, Arnold wrote in relevant part:

So basically it is a giant leveraged long position. . . . There are no option positions per se, only an asymmetric payout profile. *If the portfolio ever goes OTM to an extent that exceeds the credit reserve, they just shut down the LLC and walk away.*⁸⁵

In the final sentence here, Arnold is explaining his understanding that if GreenHat’s portfolio was “out of the money” (OTM) in an amount greater than GreenHat’s collateral deposit (“credit reserve”), GreenHat’s owners would “just shut down the LLC and walk away.” In other words, Arnold understood from his conversation with Ziegenhorn and Bartholomew that if GreenHat owed money in an amount greater than its collateral, its owners planned to have it default.

The evidence discussed above shows that this is exactly what GreenHat’s owners did. When GreenHat’s 18/19 FTRs began settling in June 2018, and as PJM began sending GreenHat weekly bills for the losses on its portfolio, neither Kittell, Bartholomew, nor Ziegenhorn returned to GreenHat any of the millions of dollars they had taken out of it. Rather, having moved the \$13.1 million in proceeds from GreenHat’s bilateral deals into their own accounts, all three “walked away” from GreenHat as planned and left it to default—leaving its massive losses to be covered by all other PJM members.

4. Generate Immediate Cash by Selling In-The-Money FTRs to Third Parties at a Discount

Even if a firm’s FTR portfolio has an overall positive valuation, FTRs do not generate any cash flows until settlement. And waiting for settlement of an *underwater* portfolio—and GreenHat knew its portfolio as a whole was always negatively-valued—obviously offered its owners little to no prospect of making money.

But Kittell, Bartholomew, and Ziegenhorn realized there *was* a way to obtain cash for themselves from GreenHat’s portfolio.⁸⁶ Although the portfolio at all times had a net-negative valuation as a whole, some individual FTRs within it had positive value—an inevitable consequence (and the desired result) of purchasing such a vast number of

⁸⁵ MA-0000000062 (Email from M. Arnold to P. Dadone) (Sept. 5, 2017, 6:03 p.m.) (emphasis added). The full email is reproduced above on pp. 20-21.

⁸⁶ One of the firms that GreenHat contacted about potentially buying FTRs from GreenHat explained this point in an internal memo. See RBCCM000001 (internal Royal Bank of Canada memo about potential FTR deal with GreenHat) (“GreenHat is looking to transfer their portfolio to a party that would sell them in the PJM FTR auction and then pay them an upfront, discounted cash payment. This party will receive the future, weekly cash flows from PJM. This is the only way that GreenHat can monetize their position.”).

FTRs. That fact enabled GreenHat to implement the money-making phase of its scheme: selling in-the-money FTRs to third parties for cash.⁸⁷ The scheme worked as intended; between September 2016 and April 2018, GreenHat collected \$13,072,428 through third-party sales to Shell and BETM.⁸⁸ The details of those deals are set forth below.⁸⁹

IV. THE LEADUP TO GREENHAT'S SCHEME

Although GreenHat did not begin implementing its manipulative scheme until June 2015, its experiences in PJM's FTR market during the preceding months (between September 2014 and May 2015) helped set the stage for that scheme.

A. August-September 2014: GreenHat Joins PJM and Learns About FTR Collateral Requirements

Before it joined PJM, GreenHat developed a formula for selecting FTRs, called "Head Start," which Bartholomew described in a PowerPoint deck created in August 2014.⁹⁰ The inputs to the Head Start formula described in the PowerPoint did not include the results of a power flow analysis or anything else relating to predicted future congestion. Rather, the only inputs were data from the PJM website about past FTR trades, congestion prices, and expected collateral.

Ready to implement its Head Start formula, GreenHat joined PJM in September 2014. Before it could trade FTRs, however, it needed to satisfy PJM's collateral requirements. At that time, PJM required firms to pass two financial tests, one to join PJM as a member and one to establish credit with PJM to make trades. First, to become a

⁸⁷ E.g., GH_0010915 (Email from A. Kittell to D. Seff) (Feb. 12, 2018) ("GreenHat is looking to sell an 'in-the-money' portfolio of PJM FTRs for the purposes of raising working capital"). Kittell's statement that GreenHat sought to obtain "working capital" was false; the purpose of the proposed sale was to get cash for Kittell, Bartholomew, and Ziegenhorn.

⁸⁸ See GH_0034042, PJM Settlements Account tab, Column R ("Shell/BETM Revenue").

⁸⁹ The finder of fact may draw adverse inferences from Kittell's refusal to answer questions about (1) his eagerness to extract cash from GreenHat's portfolio before the owners allowed the firm to default, *see* Kittell Test. Tr. 325, 365, and (2) his knowledge from GreenHat's own mark-to-auction valuations that its portfolio had a negative value, *see id.* at 318-25.

⁹⁰ GH_0042037 (GreenHat Energy Update) (Aug. 1, 2014) ("What is 'head start' (Historic Congestion – MCP (or bid)) * MW cleared – Cost to Bid – Cost to Carry – Revenue Adequacy Haircut"). Although Enforcement staff served data requests seeking all documents relating to GreenHat's FTR trading, GreenHat has not produced the spreadsheet or other tools it used to select the FTRs it purchased in December 2014, nor has it explained the absence of these documents in its production.

member of PJM, the firm needed to show financial viability in one of two ways: (1) Minimum Capitalization (“a tangible net worth in excess of \$1 million or tangible assets in excess of \$10 million,” as shown on audited financial statements); or (2) Provision of Collateral.⁹¹

When it became a member of PJM in 2014, GreenHat was unable to satisfy the Minimum Capitalization standard, and therefore relied on the Provision of Collateral option.⁹² Under that option, a firm must post at least \$500,000 in collateral with PJM. Any amount above \$500,000 posted with PJM is reduced by 10%; the remainder is the pool of collateral that PJM allows to be applied to credit for FTR trading.⁹³ For example, if a firm posted \$1 million in collateral, it would have $(\$1,000,000 - \$500,000) * .9 = \$450,000$ of collateral available for trading FTRs. PJM explained these calculations to Bartholomew in 2014.⁹⁴

GreenHat posted \$500,000 with PJM on September 16, 2014.⁹⁵ As PJM explained to Bartholomew, under the formula just discussed, this left GreenHat with \$0 in available collateral for FTR trading.⁹⁶ On October 7, 2014, GreenHat added approximately \$10,000 in collateral to support its FTR trading in the October 17, 2014 auction.⁹⁷ The changes in GreenHat’s collateral deposits since that date are shown in Figure 4 above.

By the time GreenHat defaulted in 2018, it had \$559,447 in collateral deposited with PJM. That is, despite having built the largest FTR portfolio in PJM—889 million MWh— GreenHat had on deposit with PJM at that time only \$59,447 above the minimum collateral required simply to be a PJM member.

⁹¹ See PJM Tariff Attachment Q, § C (Aug. 21, 2014).

⁹² See PJM_064095 (Credit Application Summary Review and Approval Form) (Sept. 16, 2014).

⁹³ See PJM Tariff Attachment Q, § C (Aug. 21, 2014).

⁹⁴ E.g., GH_0000564 (Email from J. Niemeyer to J. Bartholomew) (Sept. 16, 2014)

⁹⁵ *Id.*

⁹⁶ See *id.* (“The \$500K has been received. Do you want me to go ahead and approve you so you can be approved for membership? As of now, you would have a zero credit limit so you would be unable to put in FTR bids”). See also PJM_064095 (Credit Application Summary Review and Approval Form) (Sept. 16, 2014).

⁹⁷ GreenHat Energy Collateral History.xlsx; PJM_076714.

B. In Late 2014, With No Analysis of Fundamentals, GreenHat Buys FTRs That Settle Quickly—and Soon Learns That Its Portfolio is Underwater

In October 2014, GreenHat made its first FTR purchases: four monthly FTRs settling the next month, with a total volume of 121.6 MWh.⁹⁸ Two months later, in December 2014, GreenHat made its first large FTR purchases: a total of 18.62 million MWh of annual FTRs, divided among 7.29 million MWh of 15/16 planning year FTRs, 5.99 million MWh of 16/17 planning year FTRs, and 5.35 million MWh of 17/18 planning year FTRs. The FTRs in the first batch, from the 15/16 planning year, would begin to settle only six months later, on June 1, 2015.⁹⁹

In January 2015, Kittell began contacting a variety of trading firms about possible interest in buying GreenHat's entire FTR portfolio, acquired only one month before. Although it would be six months before any of the annual FTRs it bought in December 2014 would begin to settle, GreenHat quickly learned through the reactions to its sales pitches that its portfolio was unattractive to experienced FTR traders. For instance, after Ziegenhorn offered to sell Vitol Inc. (Vitol) its entire FTR portfolio, Vitol trader Dylan Seff responded on January 22, 2015, as follows:¹⁰⁰

Hi Kevin – my guys have completed their analysis and estimate that Vitol would be willing to take the current Greenhat portfolio if Greenhat is willing to pay Vitol 1.1MM USD. So to be clear, we would take the portfolio for a 1.1MM credit to Vitol.

I suspect you are looking to be **paid** to sell the portfolio, so I'm not sure if this reply will get us any further in the process, but do let us know how you want to proceed if so.

A few days later, a Merrill Lynch trader responded to the same offer from Ziegenhorn as follows: “Unfortunately, we cannot get into a position where Merrill Lynch Commodities would pay you for your portfolio. My sense is that you wish to be paid for this portfolio so I do not want to waste your time and wish you the best with the other incoming bids.”¹⁰¹

⁹⁸ See PJM_Data_Extract_00001_GreenHat Activity in PJM Auctions (containing information about all of GreenHat's FTR trades from 2014 to 2018).

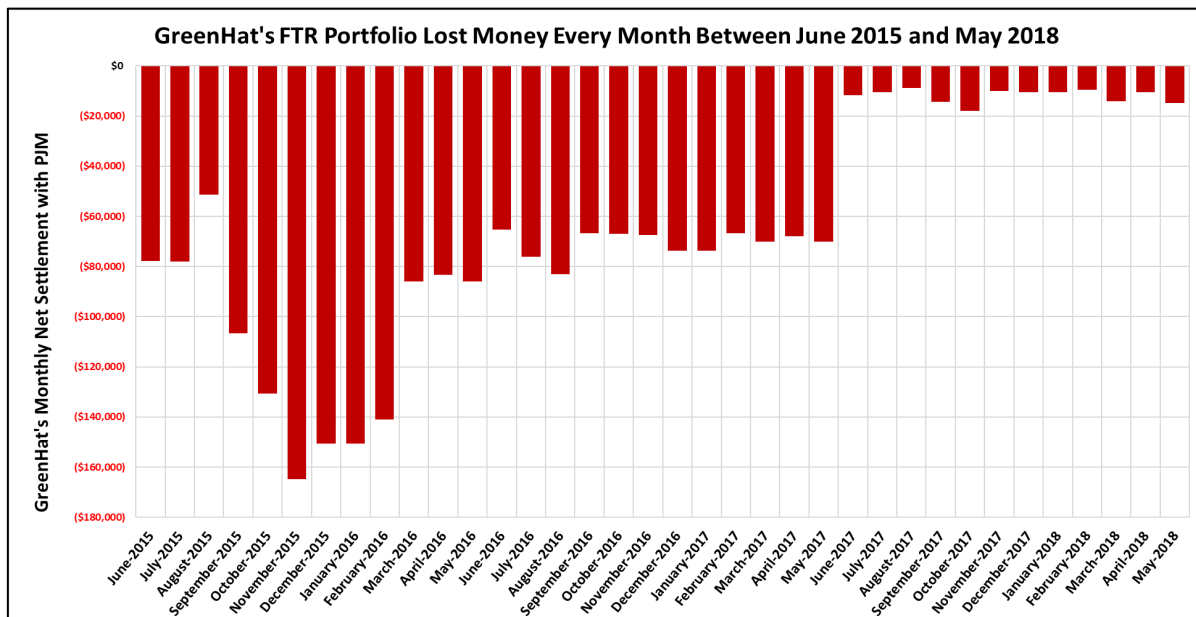
⁹⁹ *Id.*

¹⁰⁰ GH_0000710 (Email from D. Seff to GreenHat) (Jan. 22, 2015).

¹⁰¹ GH_0000689 (Email from D. Ellithorpe to GreenHat) (Jan. 28, 2015, 2:13 p.m.). See also GH_0000729 (Email from M. Maley to Contact@greenhatenergy.com) (Jan. 22, 2015) (telling Ziegenhorn that his FTR team had “[taken] a look at your portfolio” and was “not interested in making a bid at this time”).

The unprofitability of GreenHat's December 2014 FTR purchases became even clearer starting in June 2015. In that month, GreenHat's 15/16 FTRs began settling, and PJM began invoicing GreenHat for the losses GreenHat's FTRs were incurring. In June 2015 alone, PJM charged GreenHat \$76,113 for losses on its 15/16 FTRs.¹⁰² By the time GreenHat submitted bids in the September 2015 Long-Term auction (on September 1, 2015), it had already been charged \$202,112 for losses on its 15/16 FTRs.¹⁰³ That pattern continued for the next three years: between June 2015 and May 2018, GreenHat had to pay money into PJM continuously for losses on the 15/16, 16/17, and 18/19 FTRs it purchased in 2014. All told, over the period from June 2015 to May 2018, PJM charged GreenHat \$2.3 million for those losses, averaging a \$14,343 loss each week.¹⁰⁴

Figure 6

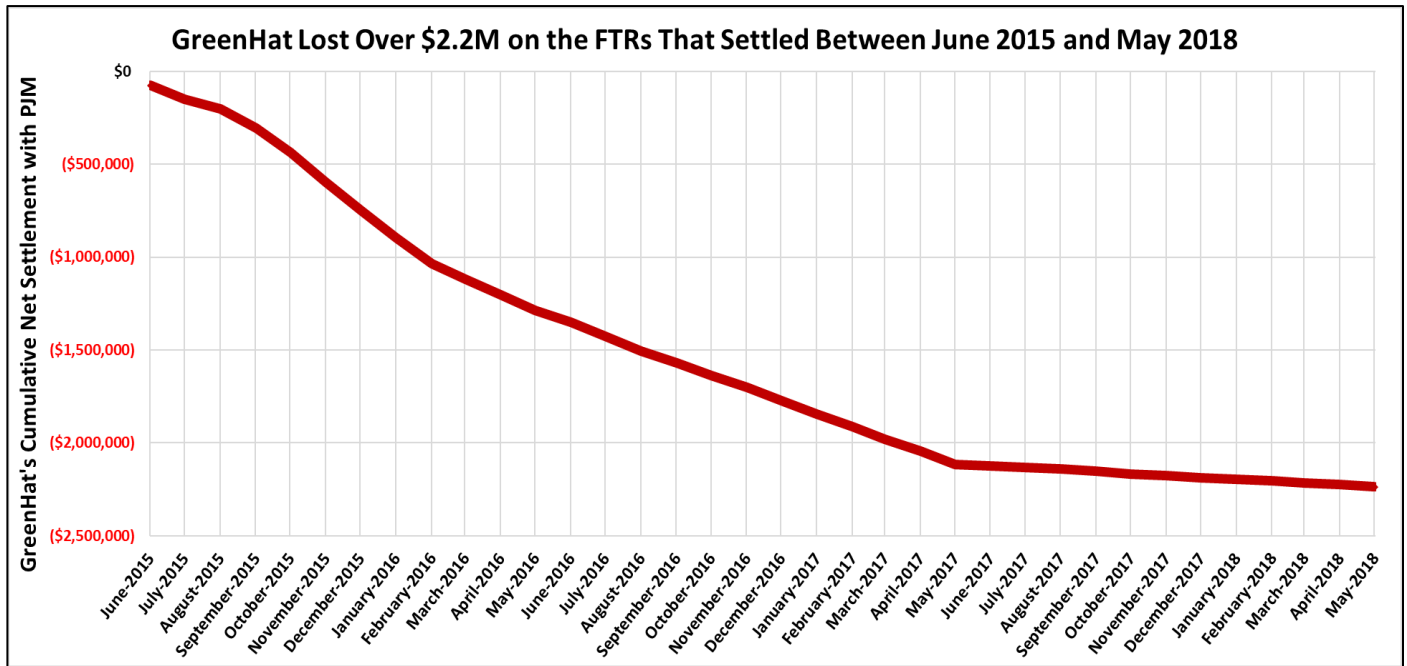


¹⁰² Greenhat_Fifth Data Request_05142020-Billing Statements.xlsx; GH_0034024, GH PJM Settlements Account tab.

¹⁰³ *Id.*

¹⁰⁴ *Id.*

Figure 7



Figures 6 and 7 above illustrate how much money GreenHat lost between June 2015 through May 2018. The bars (in the first chart) and the line (in the second) are below the x-axis, because GreenHat always paid money to, and never received money from, PJM when these FTRs settled. In other words, during the three-year period (June 2015-May 2018) in which GreenHat executed the FTR trading scheme described below, the firm was continuously paying for losses on FTRs from its initial foray into the market.

To FTR traders (such as Roscommon) that seek to make money based on expected congestion changes, it would not have come as a surprise that GreenHat's FTR selection method yielded an unprofitable portfolio: GreenHat was buying paths that had been profitable in the past but that other market participants, who evaluated FTRs based on expected future market developments, did not necessarily consider valuable any more. GreenHat made these FTR purchases not because it had done research indicating that the rest of the market was wrong, but simply because it could buy these FTRs with little upfront cash.

V. GREENHAT'S FTR TRADING SCHEME

In this section, we describe GreenHat's execution of its scheme, which began in June 2015. That scheme—building up a huge inventory of FTRs, which the collective evidence shows that GreenHat did not intend to pay for at settlement, and then profiting from selling winners to third parties—was the heart of GreenHat's unlawful conduct. But its conduct violated the FPA, the Anti-Manipulation Rule, and PJM's Tariff in other ways as well. Among other things, GreenHat rigged PJM auctions, injected false information

into the PJM market through its bids, and made intentionally false and misleading statements to PJM to enable it to profit from its scheme for an additional year.

A. June 2015-June 2016: GreenHat Buys Huge Quantities of FTRs Settling Far in the Future, Based on Which Ones It Can Acquire with Zero (or Minimal) Cash

Having lost large amounts of money acquiring FTRs that settled quickly after it purchased them, GreenHat changed course starting in June 2015: it bought only FTRs that would settle far in the future. The massive volumes of its purchases of long-term FTRs, heavily concentrated in the 18/19 planning year, are shown in Figure 5 above.

B. Summer 2016: GreenHat Negotiates and Implements Its First Third-Party Sale of FTRs, Collecting \$1.5 Million from Shell

Between June and September 2016, GreenHat negotiated and implemented its first successful effort to extract cash from its unprofitable portfolio. The basics of the deal were simple: GreenHat sold a set of FTRs to Shell, which then offered them into PJM's September 2016 long-term FTR auction. After the auction, Shell could return any unsold FTRs to GreenHat. For the FTRs that sold in the auction, the agreement called for Shell to share the proceeds with GreenHat, with 73% of the proceeds going to GreenHat and 27% to Shell.¹⁰⁵ (The 73% figure is called the "discount rate.") Shell paid the Final Purchase Price for the deal, \$1,490,981, on October 18, 2016, completing its obligations under the first deal.¹⁰⁶

C. November 2016: Kittell Meets with Kevin Kelley and Tells Him that GreenHat Buys FTRs Based on Collateral Requirements, Not on Fundamentals

On or about November 5, 2016, Kittell met in Houston with Kevin Kelley, the Chief Executive Officer of an FTR trading firm called Roscommon Analytics, to discuss a potential business relationship. Kelley later described the conversation in a June 2018 email to FERC Enforcement's Hotline, which is reproduced on pp. 5-6 above. In the

¹⁰⁵ GH_0004546 (Financial Transmission Rights Purchase & Sale Agreement) (Aug. 19, 2016) ("First Shell Agreement"). For a variety of reasons, in all three Shell deals, the ultimate economics of the deals varied from a simple proceeds-sharing formula. In the first deal, for example, if Shell decided not to return an FTR, Shell had to pay GreenHat the greater of the FTR's appreciated value, discounted by 27% or \$1000. None of those details is significant for purposes of understanding GreenHat's scheme: to build up a huge inventory of FTRs with no intent to pay for them, and then use third party deals to obtain cash for GreenHat's owners.

¹⁰⁶ See GH_0034042, PJM Settlements Account tab (showing deposit of payments from Shell on Oct. 18, 2016).

conversation, Kittell was open in describing GreenHat's strategy, as Kelley's report of the conversation made clear:

My radar went off when I asked who was doing their power flow analysis, an absolute requirement to have any success in FTR investing—and he said he had no one doing it, they weren't looking at fundamentals, just strictly buying based upon credit requirements.¹⁰⁷

D. Fall 2016-January 2017: GreenHat Negotiates and Implements a Second Bilateral Sale of FTRs to Shell

In the fall of 2016, GreenHat negotiated a second bilateral FTR sale to Shell, which the parties implemented in the December 2016 long-term auction.¹⁰⁸ In February 2017, Shell paid the Final Purchase Price of \$5,213,276, fulfilling its obligations under the second deal.¹⁰⁹

E. February 2017: GreenHat and Shell Sign a Third Agreement, to Be Implemented in the June 2017 Auction

After further negotiations, GreenHat and Shell signed an agreement on February 27, 2017, for a third bilateral FTR sale.¹¹⁰ Before the deal could be implemented, however, PJM contacted GreenHat about a potential margin call. Those events are described in the next section.

F. March 2017: Seeing that GreenHat's Portfolio Is Deeply Underwater, PJM Contacts GreenHat About a Possible Margin Call

On Friday, March 17, 2017, PJM told GreenHat it was considering making a margin call on the firm, because GreenHat's expected losses on its FTR portfolio—which PJM then estimated at about \$35 million—far exceeded GreenHat's minimal collateral deposit.¹¹¹ The next day (a Saturday), the three owners met to sign a document

¹⁰⁷ Hotline email (Roscommon_00001) (Email from K. Kelley to Enforcement Hotline) (June 25, 2018).

¹⁰⁸ GH_0000049 (Financial Transmission Rights Purchase & Sale Agreement) (Nov. 13, 2016) ("Second Shell Agreement").

¹⁰⁹ See GH_0034042, PJM Settlements Account tab (showing deposit of payments from Shell on February 10, 2017).

¹¹⁰ GH_0002536 (Financial Transmission Rights Purchase & Sale Agreement) (Feb. 27, 2017) ("Third Shell Agreement").

¹¹¹ GH_0006545 (Email from J. Bartholomew to H. Loomis) (Mar. 17, 2017) (confirming call). See GH_0005471 (Email from A. Kittell to S. Daugherty) (Mar. 20, 2017) (referring to "the Friday call between GreenHat and PJM"). See also GH_0005592 (Email from S. Daugherty to A. Kittell) (Mar. 21, 2017) (attaching email explaining basis

authorizing the transfer of all of the money in GreenHat's bank account (\$5.8 million) to the account of GreenHat's holding company, Off Fannin.¹¹² Soon thereafter, they transferred almost all of those funds from Off Fannin to their own personal accounts.¹¹³

In addition to emptying the firm's bank account, GreenHat's owners spent the weekend discussing how to respond to PJM's call.¹¹⁴ On Monday, March 20, GreenHat told PJM that the pending third deal with Shell would "fully address PJM's credit concerns."¹¹⁵ Although weeks later GreenHat told PJM that Shell owed GreenHat \$62 million on the firm's *first two* deals, GreenHat said nothing about that in this letter.

for \$35-36 million estimate). GreenHat disputed that PJM had the authority to make a collateral call. *See, e.g.*, GH_0005368 (Email from A. Kittell to M. Harhai) (Apr. 17, 2017). The extent of PJM's authority to issue a collateral call is immaterial here, because reliance is not an element of the Commission's Anti-Manipulation Rule. *See Prohibition of Energy Market Manipulation*, Order No. 670, 114 FERC ¶ 61,047, at P 48 n.102 (2006) ("reliance, loss causation and damages are not necessary for a violation of [FERC's] Final Rule"); *SEC v. Goble*, 682 F.3d 934, 943 (11th Cir. 2012) (same under securities laws).

¹¹² GH_0016019 ("Off Fannin Holdings, LLC ('Off Fannin') hereby authorizes its subsidiary GreenHat Energy LLC ('GreenHat') to make a distribution of \$5,820,357.48 to Off Fannin. . . . Ownership of the funds shall transfer immediately.") (Mar. 18, 2017).

¹¹³ *See* GH_0034042, GH PJM Settlement Account tab.

¹¹⁴ *See* Emails from counsel to general GreenHat email address / March 1 - June 30, 2017; Emails from Kevin Ziegenhorn to counsel / March 1 - June 30, 2017; Emails from general GreenHat email address to counsel March 1 - June 30, 2017; PZ0003518 (Email from A. Kittell to P. Zane) (Mar. 19, 2017) (attaching draft letter to PJM).

¹¹⁵ *See, e.g.*, GH_0005472 (Letter from Kittell to S. Daugherty) (Mar. 20, 2017) ("GreenHat is confident that the sale of the portfolio [in the third Shell agreement], which is comprised entirely of 'Flows,' fully addresses PJM's credit concerns."); *see* GH_0005491 (Email from GreenHat (Kittell) to S. Daugherty) (Mar. 20, 2017) (attaching Third Shell Deal (Redacted) (GH_0005492)).

Kittell's email refers to "flow" positions, which are FTRs that move in the same direction as congestion; these are typically positive. A "counterflow" position moves in the opposite direction of congestion, meaning it is negative and PJM would pay an FTR holder to assume the liability. *See* PJM Training, *Market Settlements – Advanced, FTR/ARR Module* (May 24, 2017), [Error! Hyperlink reference not valid.https://www.pjm.com/-/media/training/nerc-certifications/markets-exam-materials/advanced/financial-transmission-rights-auction-revenue-rights.ashx?la=en](https://www.pjm.com/-/media/training/nerc-certifications/markets-exam-materials/advanced/financial-transmission-rights-auction-revenue-rights.ashx?la=en) (last accessed Mar. 18, 2021).

The next day (March 21), PJM's analysis showed that GreenHat's proposal was inadequate to alleviate PJM's credit concerns.¹¹⁶ GreenHat responded by pointing out that its portfolio no longer included the FTRs that GreenHat had sold to Shell in the first and second deals,¹¹⁷ but said nothing then (or at any time in March) about Shell continuing to owe money to GreenHat on those deals. In any event, PJM remained unsatisfied.

Over the next two weeks, GreenHat continued to send PJM proposals and analyses to try to forestall a margin call. On March 31, 2017, for example, GreenHat again focused on the then-pending third Shell deal, claiming that Shell would owe GreenHat \$30 million in June when that deal closed if Shell took all of the FTRs identified in the deal documents.¹¹⁸ Like GreenHat's previous proposals, this one did not resolve PJM's concerns.

Hoping to modify the pending third deal in a way that would satisfy PJM, GreenHat got in touch with Shell in late March to propose a variety of potential changes. For example, Kittell wrote to Shell to propose speeding up the transfer of FTRs to Shell contemplated by the third deal.¹¹⁹ As with its communications with PJM, GreenHat's emails to Shell about revising the third deal said nothing about Shell owing GreenHat additional money on the first two deals.¹²⁰

G. April 2017: After Weeks of Offering Other Solutions, GreenHat Tells PJM that Shell Owes GreenHat \$62 Million from the First Two Deals

On April 13, 2017, nearly a month after PJM first contacted GreenHat about a collateral call, Kittell sent PJM an email claiming that Shell still owed GreenHat \$62,188,279 from the first two deals."¹²¹ In response to this email, PJM asked for backup

¹¹⁶ GH_0005592 (Email from S. Daugherty to GreenHat (Kittell)) (Mar. 21, 2017).

¹¹⁷ GH_0005539 (Email from GreenHat (Kittell) to S. Daugherty and S. Bresler) (Mar. 22, 2017).

¹¹⁸ GH_0005540 (Email from GreenHat (Kittell) to S. Daugherty) (Mar. 31, 2017) (attaching unredacted version of Third Shell Agreement for first time).

¹¹⁹ GH_0009619 (Email from A. Kittell to S. Kota) (Mar. 20, 2017).

¹²⁰ *E.g., id.*; GH_0010994 (Email from A. Kittell to R. Kolkmann) (Mar. 23, 2017).

¹²¹ *See, e.g.,* GH_0006632 (Email from GreenHat (Kittell) to M. Harhai) (Apr. 13, 2017) (claiming that GreenHat was due \$62,188,729.02 in future payments from Shell "relating to the two sets of bi-lateral ftr trades already completed"); GH_0005368 (Email from GreenHat (Kittell) to M. Harhai) (Apr. 17, 2017) (sending PJM documents that purport to show that Shell will owe GreenHat \$62 million when the FTRs sold in the first two Shell deals reach settlement); GH_0005475 (Email from GreenHat (Kittell) to S. Daugherty) (Apr. 20, 2017) (in response to PJM's request for dates of past payments and

to validate GreenHat's claimed \$62 million receivable, including a copy of "any communication you have from Shell in which they confirm the cashflow amount(s) and timing."¹²² GreenHat responded on April 17, but did not identify any such communication. Nor did GreenHat disclose then—or ever—that Shell had already paid GreenHat the Final Purchase Price(s) (totaling \$6.7 million) for the first and second Shell deals.

In its April 17 email to PJM, GreenHat described what it claimed was the basis for its contention that Shell owed GreenHat \$62 million.¹²³ In response to that email, PJM's Chief Financial Officer, Suzanne Daugherty, wrote back on April 19, 2017, stating that GreenHat had not answered the questions that PJM raised in an April 13 phone call.¹²⁴ Daugherty repeated those questions, asking GreenHat to provide the dates and amounts of all earlier payments from Shell to GreenHat under the first two Shell deals, as well as "correspondence [or] documentation from Shell Energy to validate [or] verify the applicable amount(s) and date(s)."¹²⁵

GreenHat's owners had the requested information readily available. But they did not provide it, then or ever during 2017,¹²⁶ and did not answer the questions in PJM's April 19 email. Instead, GreenHat wrote back the next day (April 20) as follows: "please see the attached file which documents the amounts that will be invoiced to Shell starting

correspondence from Shell, GreenHat provided a "file which documents the amounts that *will be invoiced* to Shell starting in June 2018 based on the tariff and values in the FTR Center.") (emphasis added).

¹²² GH_0005600 (Email from M. Harhai to GreenHat (Kittell)) (Apr. 14, 2017, 10:03 a.m.).

¹²³ GH_0005368 (Email from GreenHat (Kittell) to M. Harhai) (Apr. 17, 2017).

¹²⁴ GH_0005597 (Email from S. Daugherty to GreenHat (Kittell)) (Apr. 19, 2017). In an interview in November 2018, Shell employee Ryan Kolkmann said that in a phone call with PJM on or about March 29, 2017, Kolkmann explained the then-pending third deal with GreenHat and also the first two deals, which he said were completed and paid for. As discussed in text, when GreenHat later claimed that Shell owed it additional money on the first two deals, PJM repeatedly sent emails to GreenHat asking whether Shell had already paid GreenHat anything on those deals. GreenHat never answered those questions, instead sending PJM a set of invoices that GreenHat claimed it would send Shell in the future.

¹²⁵ GH_0005597 (Email from S. Daugherty to GreenHat (Kittell)) (Apr. 19, 2017).

¹²⁶ The finder of fact may draw adverse inferences from Kittell's refusal to answer questions about whether GreenHat ever told PJM in 2017 that Shell had already paid the Final Purchase Price for the first two deals. *See Kittell Test. Tr. 98.*

in June 2018 based on the tariff and values in the FTR Center.”¹²⁷ Since PJM pointedly and explicitly asked for information about *past* payments from Shell, GreenHat’s failure to answer that question was plainly intentional. It is a fair inference that by providing no response to PJM’s repeated questions about past payments, and instead mentioning only future payments, GreenHat sought to create the impression there had been no past payments.

In principle, PJM had another way to learn that Shell had already paid GreenHat for the FTRs: by asking Shell. But GreenHat blocked that avenue as well, insisting that PJM not contact Shell because, it claimed, doing so would jeopardize GreenHat’s then-pending third deal.¹²⁸

Nor did Shell learn about GreenHat’s \$62 million claim from GreenHat itself: although Kittell exchanged many emails with Shell during this period, none of them disclosed that GreenHat was assuring PJM that Shell owed it an additional \$62 million.

As discussed more fully below, Enforcement concludes that GreenHat took these actions because there was no \$62 million receivable. Rather, GreenHat fabricated that non-existent debt to try to dissuade PJM from issuing a collateral call that would bring an end to GreenHat’s FTR scheme.

H. GreenHat’s April 2017 Claim that Shell Owed It \$62 Million Was Knowingly False

Shell’s first two deals with GreenHat provided specific formulas for determining the amount Shell would be required to pay GreenHat, which the agreements defined as the “Final Purchase Price.”¹²⁹ In compliance with its obligations, Shell paid GreenHat

¹²⁷ GH_0005475 (Email from GreenHat (Kittell) to S. Daugherty) (Apr. 20, 2017).

¹²⁸ PJM Interconnection, L.L.C., Motion for Leave to Answer and Answer of PJM Interconnection, L.L.C., Docket No. ER18-1972-000, at 4 (filed Aug. 8, 2018) (“Moreover, PJM was not able to independently confirm the value of the bilateral trades. PJM asked Mr. Kittell for permission to contact the counterparty to the bilateral trades regarding the contractual arrangement with GreenHat and Mr. Kittell denied PJM’s request and specifically asked PJM not to contact the counterparty. To avoid a claim of interference with GreenHat’s contractual counterparty and to allow GreenHat the ability to sell down its portfolio, PJM had no choice but to comply with this request.”).

Confirming what PJM said in the filing quoted above, the finder of fact may infer, from Kittell’s refusal to answer questions on the topic, that GreenHat insisted that PJM not contact Shell about the supposed \$62 million debt. Kittell Test. Tr. 130.

¹²⁹ First Shell Agreement, ¶ 2(d); Second Shell Agreement, ¶ 2(d).

the Final Purchase Price for the first deal (\$1,490,980), in full, on October 16, 2016,¹³⁰ and paid GreenHat the Final Purchase Price for the second deal (\$5,213,276), in full, on February 10, 2017.¹³¹ After that date, Shell therefore owed GreenHat nothing more on the first two deals.

By mid-April 2017, GreenHat had been proposing a variety of ideas to PJM about how to resolve the problems created by GreenHat's deeply underwater portfolio, but PJM rejected all of them as inadequate. To try to keep its FTR scheme (and the flow of money from bilateral sales of winners) alive, GreenHat then invented a *second* set of payments that it claimed Shell was required to make to GreenHat.

GreenHat's false claim that Shell was required to make additional payments to GreenHat was based on the way in which Shell and GreenHat recorded their transactions to PJM. The PJM Tariff requires parties to bilateral FTR trades to report them to PJM so that PJM knows which entity owns each FTR for settlement purposes and to enable it to check on the purchaser's qualifications.¹³² The part of PJM's website where market participants record bilateral FTR transactions is called the "FTR Center." To be able to record an FTR transfer with PJM, market participants are required to enter numbers in a variety of fields, including a field called "Price."

In its April 17, 2017 email to PJM, GreenHat claimed that through the entries they made in PJM's FTR Center, GreenHat and Shell not only *recorded* the transfer of ownership of the FTRs within PJM's system (which is not in dispute), but also agreed that Shell would pay \$62 million *in addition to* the Final Purchase Price for the first two deals. Specifically, GreenHat contended that Shell agreed, by entering numbers into the FTR Center, to pay the amount contained in the "Price" field in the FTR Center multiplied by the amount in the "MW" field.¹³³ GreenHat made this claim even though

¹³⁰ See GH_0034042, PJM Settlements Account tab (showing deposit of payments from Shell on Oct. 18, 2016).

¹³¹ See GH_0034042, PJM Settlements Account tab (showing deposit of payments from Shell on February 10, 2017).

¹³² PJM Tariff, Attach. K-App. § 5.2.2(d).

¹³³ See, e.g., GH_0005368 (Email from A. Kittell to M. Harhai) (Apr. 17, 2017) ("The \$62 million number in my last email falls out from the data: multiplying volume times the price (done easily from either attachment 1 or 3 below). PJM manuals define 'Price' as a 'required' field that for confirmed trades means the 'agreed upon sale price of the FTR in \$ per MW' and volume as MW."). As discussed below, GreenHat later sued Shell based on its fraudulent claim that Shell owed it additional money from the firm's deals. See *GreenHat Energy, LLC v. PJM Interconnection, LLC, et al.*, GreenHat Energy, LLC's First Amended Petition, ¶ 8, No. 2018-69829-A (190th Judicial District, Harris County, TX) (Jan. 8, 2019) ("Shell Energy agreed to buy financial transmission

its owners knew—as detailed below—that the Price field was a placeholder with no significance for bilateral trades, and even though they knew that Shell had already paid GreenHat everything it owed from their first two deals.¹³⁴

For the reasons discussed here (and below at pp. 91-103), GreenHat’s claim that Shell owed it an additional \$62 million—or anything at all—was knowingly false.¹³⁵

First, the Agreements between Shell and GreenHat show that performance on the deals was concluded after Shell paid the Final Purchase Price. The words in that phrase—“final,” “purchase,” and “price”—have clear meanings. None of the three Agreements mentions the Price field on PJM’s FTR site or states that Shell will make payments based on numbers in that field.

After each deal, GreenHat invoiced Shell for the Final Purchase Price, which Shell paid in full; as Kittell told Shell when a question arose about an invoice for the second deal, “GreenHat is only expecting a single payment from Shell for \$5,213,276.11 per the Jan. 2, 2017 invoice. . . . There isn’t anything else to invoice for.”¹³⁶ Each of the Agreements (in all caps) expressly precluded payments beyond the Final Purchase Price: “SHELL ENERGY’S LIABILITY UNDER [THESE] AGREEMENT[S] IS LIMITED TO THE FINAL PURCHASE PRICE AND ALL OTHER REMEDIES OR DAMAGES AT LAW OR IN EQUITY ARE WAIVED.”¹³⁷

rights from GreenHat Energy, yet it failed to pay the approximately \$70 million price for those securities.”); *see also id.* at ¶¶ 28-31 (asserting a claim for breach of contract against Shell Energy).

¹³⁴ The “Price” field used in recording bilateral FTR transfers in the FTR Center should not be confused with the “Price” field used to place bids and offers in PJM’s FTR auctions. For auctions, the “Price” field *does* have significance: by entering numbers into that field for bids or offers, market participants agree to pay, or to accept payment for, FTRs at those prices if their bids or offers clear. *See* PJM Tariff, Attach. K-App., §§ 7.3.5(b) -(c), 7.3.6(b), 7.3.7.

¹³⁵ In a separate proceeding, the Commission has already determined that “entry of data into the FTR Center for bilateral trades does not automatically establish stand-alone bilateral contracts at the stated price, absent a separate agreement by the parties to do so.” *Shell Energy North America (US), L.P.*, 173 FERC ¶ 61,153, at P 1 (2020), *reh’g denied*, 175 FERC ¶ 61,025 (2021). Here, the evidence shows that far from entering into a separate agreement that Shell would pay GreenHat based on entry of numbers into the FTR Center, the parties’ written agreement expressly ruled out any payment obligation beyond payment of the Final Purchase Price. *See* pp. 97-98 below.

¹³⁶ GH_0004637 (Email from A. Kittell to S. Welcome) (Feb. 10, 2017, 8:45 a.m.).

¹³⁷ GH_0004546 (First Shell Agreement), ¶ 4; GH_0000049 (Second Shell Agreement), ¶ 4.

Second, GreenHat knew—and told Shell—that the “Price” field in the FTR Center had no substantive significance, but simply needed to be filled in with *some* number to be able to post a trade into the portal. In an August 22, 2016, email with Shell about the first deal, for example, Kittell told Shell, “Right now, the biggest source of uncertainty is which price to place into the ‘PRICE’ field. The obvious choices are \$0 or our cost.”¹³⁸ If the Price field had the significance that GreenHat later claimed, the difference between “\$0” and “our cost” would have amounted to many millions of dollars, and GreenHat would not have been indifferent to putting “\$0” as opposed to “our cost” in that field.

Similarly, in negotiations about the second deal, Kittell wrote the following to Shell on October 17, 2016: “I have kept Price on Attachment 1 because *we need to have a defined Price to enter into the FTR Center* to transfer FTRs to Shell.”¹³⁹ Again, GreenHat’s own words show that it understood that “Price” was simply a field that the FTR Center software required to be populated with some number to enable the parties to post a bilateral trade on the FTR Center.

Third, at the same time GreenHat was telling PJM that Shell owed it \$62 million on the first two deals, it was telling its own auditors that the deals were for one-time payments. The auditing firm was originally called Hein & Associates (H&A), and later became part of Moss Adams. The auditors’ descriptions of the deals, *based on information from Kittell*, make clear that the two Shell deals were asset sales that were complete after Shell paid the Final Purchase Price. They also make clear that Kittell told the auditors nothing about a supposed additional \$62 million payment, which would have been an extremely important fact if it had been real.

For example, the Moss Adams auditors wrote a summary of the first Shell deal on March 15, 2017, two days before PJM called GreenHat about a collateral call. In their summary, the auditors described the first Shell deal as a “sales transaction” with a price that reflected that it was a “get in the door” transaction to establish a relationship with Shell. In another note that same day (March 15), the auditors described the second Shell deal as a “sales transaction” with a price tag of “\$5.2MM.”¹⁴⁰ In neither case did the auditors say anything about Shell agreeing to make future payments (beyond the Final Purchase Price), although that fact would have been highly material if true.¹⁴¹

Moss Adams continued serving as auditor and preparing official financial statements for GreenHat through June 2018. Moss Adams’ work papers demonstrate that at no time did GreenHat *ever* tell its auditors that Shell owed it any money beyond the

¹³⁸ GH_0000223 (Email from A. Kittell to A. Lee) (Aug. 22, 2016 10:27 a.m.).

¹³⁹ GH_0004963 (Email from A. Kittell to R. Kolkman) (Oct. 17, 2016) (emphasis added).

¹⁴⁰ MA - 00000527.xls (“Credit Calculation Cleared – Nov” tab).

¹⁴¹ MA - 00000527.xls (“Credit Calculation Cleared – Aug” tab).

Final Purchase Price specified in the parties' three Agreements, much less that it was entitled to an additional \$62 million on the first two deals alone. For example, the "Permanent File Summaries" that Moss Adams created for the first two Shell deals recount the payment of the Final Purchase Price and say nothing about additional payment obligations.¹⁴² Full details about the relevant portions of Moss Adams' work papers are set forth in Attachment B to this Report.

Fourth, in contemporaneous emails to third parties in the fall of 2016 and early 2017, in which he invited them to make deals with GreenHat, Kittell accurately described the Shell deal as a *sale* of FTRs to Shell at an agreed discount rate. In one of the emails, for example, Kittell characterized the first Shell deal as a sale of FTRs for an "upfront payment" as a way to "monetize" the FTRs and to give GreenHat "proceeds to support our business today."¹⁴³ In these emails, Kittell said nothing about future payments from Shell, much less about future payments of tens of millions of dollars. Rather, Kittell simply expressed disappointment that the key term of the deal—the discount rate—was unfavorable to GreenHat. For example, on September 1, 2016, Kittell sent an email to Brian Anast of JP Morgan in which he described the first Shell deal as follows: "So, we did **sell a FTR book to Shell last month, but at a discount rate we would hope to improve on** with our next sale."¹⁴⁴ Kittell sent similar emails to several other potential purchasers, all describing one-time deals and none mentioning anything about a second payment for the same FTRs.¹⁴⁵

¹⁴² See Appendix B.

¹⁴³ GH_0002632 (Email from A. Kittell to M. Egan) (Sept. 14, 2016) ("We recently worked out and executed a structure to sell a matched book of FTR's [sic] to Shell in exchange for an upfront payment. Doing so allowed us to monetize flat FTR trading receivables that would settle 2 years from now and use the proceeds to support our business today.").

¹⁴⁴ GH_0021313 (Email from A. Kittell to B. Anast) (Sept. 1, 2016) (emphasis added).

¹⁴⁵ Kittell sent similar emails to Anthony D'Agostino at the Royal Bank of Canada, GH_0002510 (Sept. 22, 2016) (describing Shell deal as "monetization" of GreenHat FTRs); to Kevin Reeves of BP, GH_0002864 (Sept. 27, 2016) ("Earlier this year we monetized a matched book of PJM FTRs with Shell Energy and are currently looking to monetize a \$15 to \$20 million PJM FTR book . . . by year end. Our transaction with Shell worked well but was expensive . . ."); and to Naveen Arora of Citigroup, GH_0002623 (Jan. 6, 2017) ("Recently we have sold two portfolios to Shell, but I would expect you all at Citi should be easily as competitive given your low cost of capital, existing infrastructure and presence in the PJM market. Our primary objective is to sell assets and raise sales proceeds for the company."). On January 4, 2017, Kevin

Finally, and as discussed in more detail at pp. 102-03 below, GreenHat’s behavior shows that its owners did not believe that Shell owed GreenHat anything beyond the Final Purchase Price from the first two deals. If they had believed that, they could and—given their demonstrated eagerness for immediate cash—*would* have demanded that Shell pay the amount *immediately* (in 2016 and early 2017); the amount GreenHat’s owners claimed was “due” was fixed when the FTR transfers in each deal were completed.

The reason GreenHat did not demand immediate payment of the \$62 million is plain: it did not do so *before* April 2017 because it did not think Shell owed it any more money. And it did not do so *in* April 2017 (or any time before May 2018) because it knew that Shell would deny owing anything more and that PJM would see that GreenHat’s \$62 million claim was a fiction.

I. GreenHat’s April 2017 Claim that Shell Owed It \$62 Million Was Based on Multiplying Price Times Quantity—Times Quantity Again

As described above, Shell did not have *any* contractual obligations to GreenHat after paying the Final Purchase Price. To try to convince PJM that it did not need to make a margin call, however, GreenHat fabricated non-existent contract terms to come up with its \$62 million figure. Specifically, in claiming that Shell owed GreenHat additional money beyond the agreed Final Purchase Price, GreenHat contended that Shell was required to pay GreenHat (a) the entire amount that GreenHat had paid for the FTRs in the first place (that is, Price * Quantity), (b) *multiplied* by the MW quantity of the FTRs. That is, without calling PJM’s attention to the fact that it was doing so, GreenHat contended that after paying \$6.7 million through the agreed Final Purchase Price formula in the first and second deals, Shell also had to pay an additional purchase price, calculated by multiplying Price * Quantity * Quantity (P*Q*Q) from GreenHat’s original purchase of the FTRs. (There is no evidence that PJM was aware of the P*Q*Q issue at the time.)

GreenHat’s April 17, 2017 email invited PJM to “multiply[] volume times the price,” referring to entries made by the parties in the “Price” field when they reported their trades in the FTR Center. But for the FTRs it sold to Shell, GreenHat had populated the “Price” field not with the unit price it paid for the FTRs, but with the *total cost* of the FTRs: that is, it had *already* multiplied Unit Price * MW in the figures in the Price field. By doing so, the amount that GreenHat claimed Shell owed went from around \$7 million to more than \$62 million.¹⁴⁶

McGowan, a former JP Morgan colleague of GreenHat’s owners who reached out to third parties on behalf of GreenHat (and whose information about GreenHat came from its owners), sent a similar email to Stuart Staley of Citigroup. GH_0001326.

¹⁴⁶ GH_0005368 (Email from A. Kittell to M. Harhai) (Apr. 17, 2017) (stating that the calculations proposed could be “done easily from either attachment 1 or 3 below”);

This screenshot shows all the fields in the FTR Center for reporting bilateral trades:¹⁴⁷

The FTR Center has two columns that include the word “Price”

Clearing Price (\$/MW-Period)

1,478.3

1,478.3

1,478.3

Price

2,069.62

2,069.62

2,069.62

ID	Event Type	Posted By	Accepted By	Source	Sink	Start	End	Clearing Price (\$/MW-Period)	Class	Hedge	Trade	Price	Event Time
132643587	AcceptTrade	GRNHAT	Coral	CROYDON 13 KV UNIT42	EPHATA	6/1/2018	5/31/2019	1,478.3	OnPeak	Obligation	Sell	1.4	8/23/2016 22:49:20
132643587	ConfirmTrade	GRNHAT	Coral	CROYDON 13 KV UNIT42	EPHATA	6/1/2018	5/31/2019	1,478.3	OnPeak	Obligation	Sell	1.4	8/23/2016 22:57:36
132643589	AcceptTrade	GRNHAT	Coral	FOHLER 34.5 KV FHLR2HVF	AK STEEL	6/1/2018	5/31/2019	-164.33	OffPeak	Obligation	Sell	2.0	8/23/2016 21:38:42
132643589	ConfirmTrade	GRNHAT	Coral	FOHLER 34.5 KV FHLR2HVF	AK STEEL	6/1/2018	5/31/2019	-164.33	OffPeak	Obligation	Sell	2.0	8/23/2016 21:38:42
132643591	AcceptTrade	GRNHAT	Coral	LINWIDE 18 KV CT2	NBOVERTOWN KY ROLLINGH	6/1/2018	5/31/2019	-198.62	OnPeak	Obligation	Sell	0.8	8/23/2016 21:38:42
132643591	ConfirmTrade	GRNHAT	Coral	LINWIDE 18 KV CT2	NBOVERTOWN KY ROLLINGH	6/1/2018	5/31/2019	-198.62	OnPeak	Obligation	Sell	0.8	8/23/2016 21:38:42
132643591	PostTrade	GRNHAT	Coral	LINWIDE 18 KV CT2	NBOVERTOWN KY ROLLINGH	6/1/2018	5/31/2019	-198.62	OnPeak	Obligation	Sell	0.8	8/23/2016 21:38:42
132643593	AcceptTrade	GRNHAT	Coral	BEAVERBROOK KY BEAVERBSP	LANGDALE	6/1/2018	5/31/2019	-835.15	OnPeak	Obligation	Sell	0.2	8/23/2016 21:38:42
132643593	ConfirmTrade	GRNHAT	Coral	BEAVERBROOK KY BEAVERBSP	LANGDALE	6/1/2018	5/31/2019	-835.15	OnPeak	Obligation	Sell	0.2	8/23/2016 21:38:42
132643593	PostTrade	GRNHAT	Coral	BEAVERBROOK KY BEAVERBSP	LANGDALE	6/1/2018	5/31/2019	-835.15	OnPeak	Obligation	Sell	0.2	8/23/2016 21:38:42
132643595	AcceptTrade	GRNHAT	Coral	TURMUPPEZ20 KV KEARHVSP	HEWELL20 KV HEWELLSP	6/1/2018	5/31/2019	-3,024.04	OnPeak	Obligation	Sell	0.8	8/23/2016 21:38:42
132643595	ConfirmTrade	GRNHAT	Coral	TURMUPPEZ20 KV KEARHVSP	HEWELL20 KV HEWELLSP	6/1/2018	5/31/2019	-3,024.04	OnPeak	Obligation	Sell	0.8	8/23/2016 21:38:42
132643595	PostTrade	GRNHAT	Coral	TURMUPPEZ20 KV KEARHVSP	HEWELL20 KV HEWELLSP	6/1/2018	5/31/2019	-3,024.04	OnPeak	Obligation	Sell	0.8	8/23/2016 21:38:42
132643597	AcceptTrade	GRNHAT	Coral	FORDMILL18 KV FE 18CT	BRUNNER20 KV DIES	6/1/2018	5/31/2019	-2,278.82	OffPeak	Obligation	Sell	0.1	8/23/2016 21:38:42
132643597	ConfirmTrade	GRNHAT	Coral	FORDMILL18 KV FE 18CT	BRUNNER20 KV DIES	6/1/2018	5/31/2019	-2,278.82	OffPeak	Obligation	Sell	0.1	8/23/2016 21:38:42
132643597	PostTrade	GRNHAT	Coral	FORDMILL18 KV FE 18CT	BRUNNER20 KV DIES	6/1/2018	5/31/2019	-2,278.82	OffPeak	Obligation	Sell	0.1	8/23/2016 21:38:42
132643599	AcceptTrade	GRNHAT	Coral	FORDMILL18 KV FE 15TK	BRUNNER18 KV UNIT02	6/1/2018	5/31/2019	-7,292.22	OffPeak	Obligation	Sell	3.2	8/23/2016 21:38:42
132643599	ConfirmTrade	GRNHAT	Coral	FORDMILL18 KV FE 15TK	BRUNNER18 KV UNIT02	6/1/2018	5/31/2019	-7,292.22	OffPeak	Obligation	Sell	3.2	8/23/2016 21:38:42
132643599	PostTrade	GRNHAT	Coral	FORDMILL18 KV FE 15TK	BRUNNER18 KV UNIT02	6/1/2018	5/31/2019	-7,292.22	OffPeak	Obligation	Sell	3.2	8/23/2016 21:38:42
132643601	AcceptTrade	GRNHAT	Coral	FORDMILL18 KV FE 15TK	BRUNNER20 KV DIES	6/1/2018	5/31/2019	-2,278.82	OffPeak	Obligation	Sell	0.8	8/23/2016 21:38:42
132643601	ConfirmTrade	GRNHAT	Coral	FORDMILL18 KV FE 15TK	BRUNNER20 KV DIES	6/1/2018	5/31/2019	-2,278.82	OffPeak	Obligation	Sell	0.8	8/23/2016 21:38:42
132643601	PostTrade	GRNHAT	Coral	FORDMILL18 KV FE 15TK	BRUNNER20 KV DIES	6/1/2018	5/31/2019	-2,278.82	OffPeak	Obligation	Sell	0.8	8/23/2016 21:38:42
132643603	AcceptTrade	GRNHAT	Coral	CROYDON 13 KV UNIT11	EPHATA	6/1/2018	5/31/2019	1,478.3	OnPeak	Obligation	Sell	1.7	8/23/2016 21:38:42

As this image shows, the FTR Center has both a column called “Clearing Price” (\$/MW-Period) (the original auction cost, automatically populated by PJM’s system) and a column called “Price” (filled in by the seller). For the FTRs it sold to Shell, GreenHat filled in the Price column by multiplying the FTR’s MW volume by the per-MW price from its original purchase of the FTR. The screenshot below is an example for the path PENELEC-WESTERN.¹⁴⁸

GH_0005372 (Attachment 1 to Apr. 17, 2017 email) ; GH_0005371 (Attachment 3 to Apr. 17, 2017 email).

¹⁴⁷ FTR Center Screenshot showing GreenHat / Shell (Coral) transactions.

¹⁴⁸ Excerpt from PJM_000724 (spreadsheet sent by GreenHat to PJM on March 27, 2017).

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
date	ID	MarketName	MarketRo	Source	Sink	Trade	Class	Period	Hedge	MW	Price	Source \$/M	Sink \$/MW	Buy/Sell	Value
6/1/2018	135548553	Bilateral Market	2	PENELEC	WESTERN	Sell	OnPeak	YR2	Obligation	10	48680.7	\$ -	\$ -	(1.00)	\$ 486,807.0

Market Clearing Price is \$4,868.

"Price" is $P*Q$ ($\$4,868 * 10$)

GreenHat multiplies by Q again ($P*Q*Q$) to get \$486,807

That is, while called "Price," GreenHat populated that column with the *total cost* of the FTR ($P*Q$). When GreenHat multiplied "Price" times Quantity, therefore, it was multiplying the original auction cost of the FTRs ($P*Q$) by Quantity again, i.e., $P*Q*Q$. For this FTR, that meant that GreenHat was telling PJM that *after* paying the Final Purchase Price, Shell was required to pay GreenHat the original cost of the FTR (\$48,681) times ten (or \$486,807). For all of the FTRs it sold to Shell, GreenHat claimed that Shell owed—in addition to the Final Purchase Price—not merely GreenHat's total cost of acquiring the FTRs (\$7,139,737) but more than eight times that amount, or \$62,188,729.

GreenHat's calculation also drove up the amount that Shell allegedly owed it (beyond the Final Purchase Price) in a second way. In the first and second deals, Shell returned some (unsold) FTRs to GreenHat. When Shell filled in the Price field for those FTRs, it generally entered lower numbers than GreenHat did. Using its "multiply Price column by MW" method, GreenHat therefore claimed that it bought back the same FTRs at a lower price than the price at which it had sold the FTRs to Shell. As a result, even though Shell returned nearly half of the MWs it had bought, GreenHat's calculation gives Shell an offset of only \$9,742,435 for their return.

Here is an illustrative example: GreenHat sells 10 MW of an FTR to Shell that it originally purchased at \$500/MW. GreenHat populates the Price column with its total original cost ($10 \text{ MW} * \$500 = \$5,000$). GreenHat then multiplies the Price column by volume (10 MW) again, for a total of \$50,000 supposedly owed by Shell on this trade. When returning the FTR, Shell enters a lower number (\$500) in the Price column. GreenHat then calculates the cost of the FTR (when sold by Shell back to GreenHat) as $10 \text{ MW} * \$500 = \$5,000$. So even though GreenHat has bought back the identical FTR in the identical volume, it claims that Shell owes it \$45,000 for the back-and-forth

transaction. All told, for the first two Shell deals, **GreenHat claimed that Shell owed it \$25.6 million for FTRs that it sold to Shell and then bought back a few days later.**¹⁴⁹

Again, to be clear, the evidence shows that Shell did not owe GreenHat *anything* after paying the Final Purchase Price. But it was only by fraudulently claiming that Shell owed GreenHat the original auction cost (MW*Purchase Price) *multiplied by MW again* that GreenHat was able to present to PJM a number large enough—more than \$62 million—to cover the roughly \$30-40 million negative valuation about which PJM was concerned.

J. May-June 2017: Knowing that the \$62 Million Debt Did Not Exist, GreenHat Insists on Drafting an Agreement with PJM in Which It Avoids Accountability

After falsely assuring PJM in mid-April 2017 that it would collect \$62 million from Shell starting in June 2018, GreenHat and PJM negotiated for the next two months over an agreement that would enable PJM to use those (non-existent) funds to offset future losses in GreenHat's FTR portfolio. The result was a Partial Assignment and Pledge Agreement (Pledge Agreement) signed in late June 2017.¹⁵⁰ After executing the Pledge Agreement, GreenHat was able to continue to trade in the PJM FTR market.¹⁵¹

Because GreenHat knew that the \$62 million receivable from Shell was an illusion, it insisted that GreenHat and its owners *not* make any commitment, in the agreement, that the receivable actually existed.¹⁵² Using a variety of excuses—including claiming that Kittell and Bartholomew feared unfair treatment because the Commission had pursued their former employer, JP Morgan, for market manipulation¹⁵³—they

¹⁴⁹ PJM_Data_Extract_00001_GreenHat Activity in PJM Auctions;
PJM_Data_Extract_00002_GreenHat Bilateral Transactions;
PJM_Data_Extract_00003_Shell Activity in PJM Auctions During Relevant Period.

¹⁵⁰ GH_0012235 (Partial Assignment and Pledge Agreement) (June 23, 2017).

¹⁵¹ Partial Assignment and Pledge Agreement at ¶ 6.i.e (allowing GreenHat to continue to trade 17/18, 18/19, and 19/20 FTRs).

¹⁵² *E.g.*, GH_0012248 (Email from D. Gerger to S. Shparber) (Apr. 20, 2017, 6:18 P.M.) (“I think the best way to draft your agreement is that GreenHat is assigning its net rights under the bilateral contracts. That is different from saying that GreenHat is assigning \$X on Y date.”). The author of this email, David Gerger, was GreenHat's attorney at this time. Steve Shparber was then an attorney with PJM.

¹⁵³ *See, e.g.*, PJM_001394 (Email from D. Gerger to S. Shparber) (June 14, 2017)) (“I hate to say [that asking GreenHat to make representations or warranties] [is] a ‘deal killer’. . . . but these gents [Kittell and Bartholomew] went through an abusive experience . . . even an unlawful one . . . at the hands of others (not PJM) . . . and I can't let them go

successfully insisted that the Agreement be drafted to avoid any representation, warranty, or other commitment that Shell actually owed the \$62 million.¹⁵⁴

WHEREAS, GreenHat disclaims any warranty about its positions, ^{and (JHB)} the bilateral FTR contracts with Shell, including the value of its positions and FTRs, other than set out in this Agreement, and PJM disclaims any reliance on GreenHat for the same.

PJM did not learn that GreenHat's claims about a \$62 million debt from Shell were false until May 2018, when PJM began preparing to collect from the special bank account that GreenHat had set up to purportedly receive the (non-existent) payments from Shell once GreenHat's 18/19 FTRs began to settle on June 1, 2018.¹⁵⁵

K. Throughout Its Negotiations with PJM, GreenHat Transfers Money Out of GreenHat's Accounts and into the Personal Accounts of Its Owners

PJM contacted GreenHat on Friday, March 17, 2017, about a potential margin call.¹⁵⁶ One day later—Saturday, March 18—Kittell, Bartholomew, and Ziegenhorn met to authorize transfer of \$5,820,357 from GreenHat to Off Fannin.¹⁵⁷ The transfer, which cleared on March 20, emptied GreenHat's PJM settlements account.¹⁵⁸

through that over this exercise"); GH_0012250 (Email from D. Gerger to S. Shparber) (May 29, 2017) ("we are not making any representations to PJM about GreenHat's book or positions or the meaning of the bilateral FTRs—but PJM is relying on its own analysis (as we've discussed: these guys went through a very unpleasant experience)—so that affects some of the 'warranties and reps' which we can discuss").

¹⁵⁴ GH_0012048 (Email from D. Gerger to S. Shparber) (May 10, 2017); GH_0012113 (Email from D. Gerger to S. Shparber (June 1, 2017 12:45 p.m.) ("GreenHat is not making any representations about the FTRs or valuations that PJM is relying on. . . .").

¹⁵⁵ See pp. 64-65 below.

¹⁵⁶ See GH_0006545 (Email from GreenHat (Bartholomew) to H. Loomis) (Mar. 17, 2017).

¹⁵⁷ GH_0016019 (Mar. 18, 2017) ("Off Fannin Holdings LLC ('Off Fannin') hereby authorizes its subsidiary GreenHat Energy LLC ('GreenHat') to make a distribution of \$5,820,357.48 to Off Fannin. Ownership of the funds shall transfer immediately.").

¹⁵⁸ See GH_0034042, GH Off Fannin Operations Account tab; see also GH_0034042, GH PJM Settlement Account tab.

Run Date	Action	Amount (\$)	Check	Balance
3/3/2017	TRANSFERRED TO	\$ (75,000.00)	\$ -	\$ 6,422,634.86
3/3/2017	TRANSFERRED TO	\$ (184,423.72)	\$ -	\$ 6,238,211.14
3/3/2017	TRANSFERRED TO	\$ (184,423.72)	\$ -	\$ 6,053,787.42
3/10/2017	DIRECT DEBIT PJMSETTLEMENTIACHDRAFT	\$ (17,959.38)	\$ -	\$ 6,035,828.04
3/17/2017	DIRECT DEBIT PJMSETTLEMENTIACHDRAFT	\$ (15,470.56)	\$ -	\$ 6,020,357.48
3/20/2017	TRANSFERRED TO VS Z73-930946-1	\$ (200,000.00)	\$ -	\$ 5,820,357.48
3/20/2017	TRANSFERRED TO	\$ (5,820,357.48)	\$ -	\$ -

Soon thereafter, Kittell, Bartholomew, and Ziegenhorn began transferring these funds from Off Fannin to their own personal accounts. On April 3-4, 2017, the owners caused Off Fannin to transfer \$5,448,922 to the three owners or to entities they controlled.¹⁵⁹ By the time GreenHat (through Bartholomew) signed the Pledge Agreement with PJM in June 2017, Off Fannin had only \$3,768 left in its account.¹⁶⁰

L. June 2017: GreenHat and Shell Consummate a Third Bilateral Deal, and GreenHat's Owners Quickly Transfer the Proceeds to Themselves

In June 2017, GreenHat and Shell implemented a (modified version of) their Third Agreement, and Shell offered the deal's FTRs into that month's long term auction.¹⁶¹ On

¹⁵⁹ GH_0016015 (Payment of Promissory Note Dated April 3, 2015) (Apr. 3, 2017); GH_0016014 (Payment of Off Fannin Holdings, LLC Distributions Dated April 3, 2015) (Apr. 3, 2017); GH_0026235 (Transfer Request) (Apr. 3, 2017) (Ziegenhorn authorizes transfer of \$3,106,361 from Off Fannin's account to Andrew Kittell Living Trust account); GH_0016013 (Payment of Off Fannin Holdings, LLC Distributions Dated April 3, 2015) (Apr. 3, 2017); GH_0026236 (Transfer Request) (Apr. 3, 2017) (Ziegenhorn authorizes transfer from Off Fannin's account of \$381,940 to John Bartholomew's account, \$1,548,680 to Andrew Kittell Living Trust account, and \$381,940 to Kevin Ziegenhorn's account); GH_0026237 (Transfer Authorization) (Apr. 3, 2017) (Ziegenhorn authorizes transfer from Off Fannin's account of \$10,000 each to Bartholomew, Ziegenhorn, and Andrew Kittell Living Trust).

GreenHat paid its lawyers \$315,000 between March 20, 2017 and May 30, 2017. GH_0000010 (Check Image #1030) (Mar. 20, 2017) (\$100,000 payment from GreenHat to Quinn Emmanuel); GH_0000011 (Check Image #1031) (Mar. 31, 2017) (\$100,000 payment from GreenHat to Quinn Emmanuel); GH_0000017 (Check Image #1041) (Apr. 28, 2017) (\$100,000 payment from GreenHat to Quinn Emmanuel); GH_0000022 (Check Image #1046) (May 30, 2017) (\$15,000 payment from GreenHat to Quinn Emmanuel).

¹⁶⁰ See GH_0034042, Off Fannin Operations Account tab (showing \$3,768.13 on deposit on June 13, 2017). The balance rose to \$4,369,768 in June after GreenHat's owners transferred the payment for the third Shell deal from GreenHat to Off Fannin. *Id.*

¹⁶¹ GH_0002536 (Feb. 27, 2017) ("Third Shell Agreement").

June 16, 2017, Shell paid GreenHat the Final Purchase Price of \$4,368,171.¹⁶² That same day, GreenHat transferred virtually all of that money to Off Fannin.¹⁶³ Between July 10 and July 17, 2017, Off Fannin transferred approximately \$4.9 million to Kittell, Bartholomew, and Ziegenhorn.¹⁶⁴

M. June 2017: In the Third Deal, GreenHat Massively Expands Its Practice of Buying Back the Same FTRs It Had Just Sold to Shell

GreenHat knew the best way to ensure it would make money from its Shell deals was if the FTRs it sold to Shell cleared in the PJM auctions, so that Shell could not return them to GreenHat. Based on the “Final Purchase Price” formulas in its agreements with Shell, GreenHat also knew that the higher the price at which the FTRs cleared, the more money GreenHat would make in its Final Purchase Price payments from Shell.

Over the course of the three Shell deals, GreenHat employed, and over time vastly expanded, a technique for achieving both of these goals: bidding at inflated prices to buy in the PJM auction **the same FTRs it had just transferred bilaterally to Shell**. This plan was uneconomic and irrational from the perspective of a firm trying to profit from its FTR portfolio at settlement; GreenHat was buying back “its own” FTRs at higher prices, which guaranteed that GreenHat’s portfolio would perform worse at settlement. (As discussed above, GreenHat did not have to pay anything to acquire FTRs at auction beyond the required collateral amount.) As the record as a whole shows, however, GreenHat’s owners had no intention of paying for losses at settlement. Because the final step in Kittell, Bartholomew, and Ziegenhorn’s scheme was to allow GreenHat to default, the portfolio’s performance at settlement was not their concern.

What did concern the owners was getting cash immediately from Shell. By buying back its own FTRs at inflated prices, GreenHat advanced that goal in two critical ways: (a) making it more likely that the FTRs Shell was offering into the PJM auction would clear and (b) when they did clear, increasing GreenHat’s payment from Shell, which under their Agreements depended on the prices at which the FTRs cleared.

The statistics in Table 1 illustrate how GreenHat targeted the same FTRs it had just sold to Shell.¹⁶⁵ Starting with the first Shell deal, and to an increasing degree in the second and third deals, GreenHat submitted bids on FTRs it had just sold to Shell, and that Shell was now offering into the PJM auction, at the identical volume, or exactly

¹⁶² GH_0034042, PJM Settlement Accounts tab.

¹⁶³ GH_0034042, Off Fannin Operations Account tab.

¹⁶⁴ *Id.*

¹⁶⁵ The column showing “Shell offers with GreenHat bids” reflects the number of paths for which GreenHat bid on the exact same MW volume (or exactly double the MW volume) of an FTR it had sold to Shell, with the same source and sink, and for the same time period (peak, off-peak, or all-hours). The term “LTA” means long term auction.

twice the volume, of Shell's offers to sell the FTRs.¹⁶⁶ Because it had just sold the FTRs to Shell, GreenHat had inside knowledge of what FTR paths Shell would be offering and in what volumes.¹⁶⁷ For the first deal, GreenHat bid on 7% of the FTR paths it had just sold to Shell, and 43% of those bids had volumes equal to or double Shell's offer volumes. By the third deal, GreenHat bid on 89% of the FTR paths it had just sold to Shell and 98% had equal or double volumes. That is, over time GreenHat increasingly targeted its bids at the same FTR paths it had just sold to Shell and was successful in doing so.

¹⁶⁶ Because none of GreenHat's principals provided substantive testimony, it is not clear why they sometimes bid at double the volume of Shell's offers. What is certain, however, is that GreenHat used inside information about Shell's offers in creating its bids.

¹⁶⁷ The volumes at which Shell would offer were obvious: the quantity of FTRs that Shell had acquired from GreenHat. As to price, it was also straightforward for GreenHat to deduce how Shell would offer into the PJM auctions. In all three bilateral deals with Shell, the Agreements specify a price that would be used in calculating how much money Shell would need to pay GreenHat for each FTR transferred. In the first deal, that price is \$1,000. First Shell Agreement, ¶ 2. In the second and third deals, it is called the "Threshold Price." Second Shell Agreement, ¶ 2; Third Shell Agreement, ¶ 2. If the FTRs that Shell offered into the auction were to clear *below* these prices, Shell was obligated to pay GreenHat for the difference. Shell therefore had a strong incentive not to offer below these prices. On the other hand, offering to sell the FTRs at a price *above* these prices would make it less likely the FTRs would clear in the auction. As GreenHat knew, therefore, Shell had powerful incentives to offer the FTRs at exactly the price specified in their Agreements (\$1,000 in the first deal and the Threshold Price in the second and third deals).

Table 1

	Approx. Bid Date	Number of GreenHat's FTRs that Shell offered into PJM (A)	Number of Those FTRs that GreenHat Bid on (B)	Number of Those Bids with MW Equal to or Double Shell's Offer MW (C)	% of All Shell's Offers on Which GreenHat Bid Equal or Double Shell's Offer MWs (C/A)	% of GreenHat's Bids on Shell's Offers That Were Equal or Double Shell's Offer MWs (C/B)
17/20 LTA R2 (Deal 1)	September 6th, 2016	498	79	34	7%	43%
17/20 LTA R3 (Deal 2)	December 1, 2016	1,370	582	426	31%	73%
18/21 LTA R1 (Deal 3)	June 2-5, 2017	1,464	1,325	1,301	89%	98%
Total		3,332	1,986	1,761	53%	89%

Across the three Shell deals, GreenHat's clearing rates for the FTRs it sold to Shell (i.e., the rates at which GreenHat succeeded in purchasing the Shell FTRs it bid on) steadily increased, from 62% in the first deal to 91% in the third deal. In the first two Shell deals, GreenHat bid for the FTRs it had just sold to Shell using the same price formula it used for other FTR bids, namely by bidding at 10% above the most recent auction clearing price. In the third deal, GreenHat did something different: after determining (from its contractual interactions) what FTRs Shell would offer into the PJM auction, and at what price, GreenHat not only bid at the same or double the *volume* of Shell's offers, but also set its *bid prices* at exactly 22.22% above Shell's offer prices.¹⁶⁸

¹⁶⁸ PJM_Data_Extract_00001_GreenHat Activity in PJM Auctions;
PJM_Data_Extract_00002_GreenHat Bilateral Transactions;
PJM_Data_Extract_00003_Shell Activity in PJM Auctions During Relevant Period.
Because none of the GreenHat principals gave substantive testimony, it is not clear why they chose these particular percentage adders. But there were clearly constraints on how high GreenHat could bid; for example, higher percentage adders would increase the likelihood of clearing, but would also require GreenHat to post more collateral, which GreenHat was always trying to minimize.

Table 2

Shell Bilateral Deal	Number of “Double” Bids Cleared	Number of “Equal” Bids Cleared	Number of Other Bids Cleared	Total Number of Cleared Bids (E)	Total Shell Offers with GreenHat Bid (F)	% of GreenHat Bids on Shell Offers That Cleared (E/F)
Deal 1	4	26	19	49	79	62%
Deal 2	7	315	125	447	582	77%
Deal 3	659	519	23	1201	1325	91%
Grand Total	670	860	167	1697	1986	85%

The following is an example of how GreenHat implemented this strategy: for each of these FTRs, GreenHat’s bid price was exactly 22.22% above Shell’s offer price.¹⁶⁹

AUCTION DATE	MARKETNAME	ROUND	PATH NAME	STRIP	CLASSTYPE	SHELL OFFER PRICE	GREENHAT BID PRICE	SHELL FTRID	GREENHAT FTRID	GREENHAT BID AS PCT OF SHELL BID
June 02, 2017 18/21 Long Terr		1	CHR138_12_K_2019_YR		OnPeak	53603.12	65514.93	143027371	143009762	122.222%
June 02, 2017 18/21 Long Terr		1	CITYSTMA138_2018_YR		OffPeak	1924.32	2351.95	143026680	143009464	122.222%
June 02, 2017 18/21 Long Terr		1	CITYSTMA138_2018_YR		OffPeak	1078.83	1318.57	143026681	143009276	122.222%
June 02, 2017 18/21 Long Terr		1	CLARKSVI230_2019_YR		OffPeak	483.12	590.48	143027374	143009765	122.222%
June 02, 2017 18/21 Long Terr		1	CLARKSVI230_2018_YR		OffPeak	995.93	1217.25	143026682	143009277	122.222%
June 02, 2017 18/21 Long Terr		1	CLARKSVI230_2018_YR		OnPeak	3592.85	4391.26	143026683	143009465	122.222%
June 02, 2017 18/21 Long Terr		1	CLARKSVI230_2019_YR		OffPeak	995.93	1217.25	143027375	143009766	122.222%

For FTRs in the third Shell deal, only 1% of GreenHat’s bids for Shell FTRs followed its previous approach—bidding at 10% above the most recent auction clearing price. Instead, for the vast majority (93%) of its bids for FTRs it sold to Shell, GreenHat bid in at exactly 22.22% above Shell’s offer price.¹⁷⁰

¹⁶⁹ PJM_Data_Extract_00001_GreenHat Activity in PJM Auctions;
PJM_Data_Extract_00002_GreenHat Bilateral Transactions;
PJM_Data_Extract_00003_Shell Activity in PJM Auctions During Relevant Period.

¹⁷⁰ PJM_Data_Extract_00001_GreenHat Activity in PJM Auctions;
PJM_Data_Extract_00002_GreenHat Bilateral Transactions;
PJM_Data_Extract_00003_Shell Activity in PJM Auctions During Relevant Period.

Table 3

Shell Deal	GreenHat Bids with 10% Markup	GreenHat Bids with 22% Markup	Other GreenHat Bids	Total GreenHat Bids	Percent of Bids with 10% Mark-Up	Percent of Bids with 22.22% Mark-Up
Deal 1	1		78	79	1%	0%
Deal 2	448	5	129	582	77%	1%
Deal 3	10	1236	79	1325	1%	93%
Grand Total	459	1241	286	1986	23%	62%

As discussed above, GreenHat’s bids for FTR paths it sold to Shell in the June 2017 auction cleared at an even higher rate (91%) than those associated with the first two Shell deals. All told, in the June 2017 auction, GreenHat was able to buy FTRs on 1,201 paths that Shell offered into the auction, for a total volume of 5,825 MW (approximately 25.6 million MWhs), with bid prices 22.22% higher than Shell’s offer prices.¹⁷¹ In other words, GreenHat rigged the June 2017 Long Term Auction by submitting bids for “its own” FTRs based on advance knowledge of the volumes and prices that Shell would offer them at, in a way that reduced the value of its portfolio, but that generated more cash for GreenHat’s owners. Thanks in part to the success of this bidding scheme, GreenHat obtained a total of \$4.37 million from Shell as the Final Purchase Price for the third deal.¹⁷²

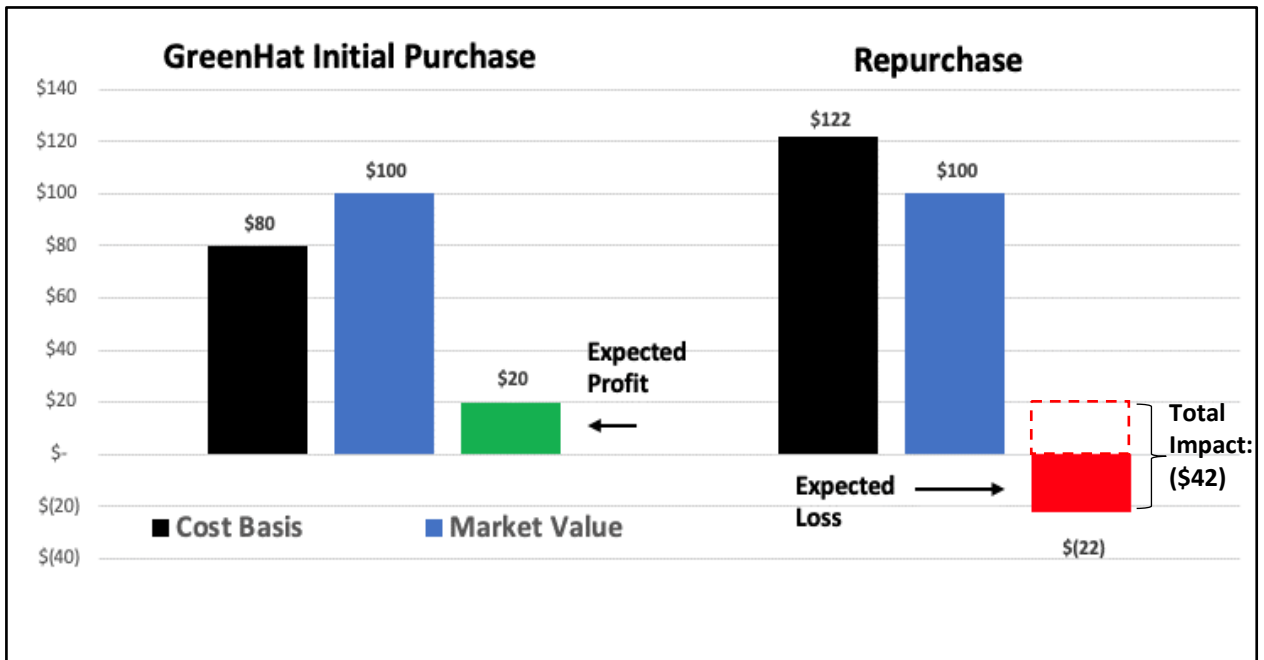
Although this strategy generated more cash for GreenHat’s owners, it resulted in greater losses borne by the rest of PJM’s membership when GreenHat defaulted in June 2018. The following chart, using illustrative values, demonstrates how this happened.¹⁷³

¹⁷¹ Because GreenHat sometimes bid at the twice the quantity of Shell’s offers, it purchased a larger volume of FTRs on Shell paths than Shell sold on those paths.

¹⁷² See GH_0034042, GH PJM Settlement Account tab.

¹⁷³ For example, consider GreenHat’s purchase, sale, and repurchase of the 18/19 Offpeak FTR with source 13 CRAWF138 KV ATR58R04 and sink 945 CRET13.5 KV CT-3. GreenHat began with a cost basis of \$1,212/MW on this path and repurchased the same path with a cost basis of \$2,064/MW, ensuring that the FTR would be worth \$852 less per MW no matter how the path ultimately settled.

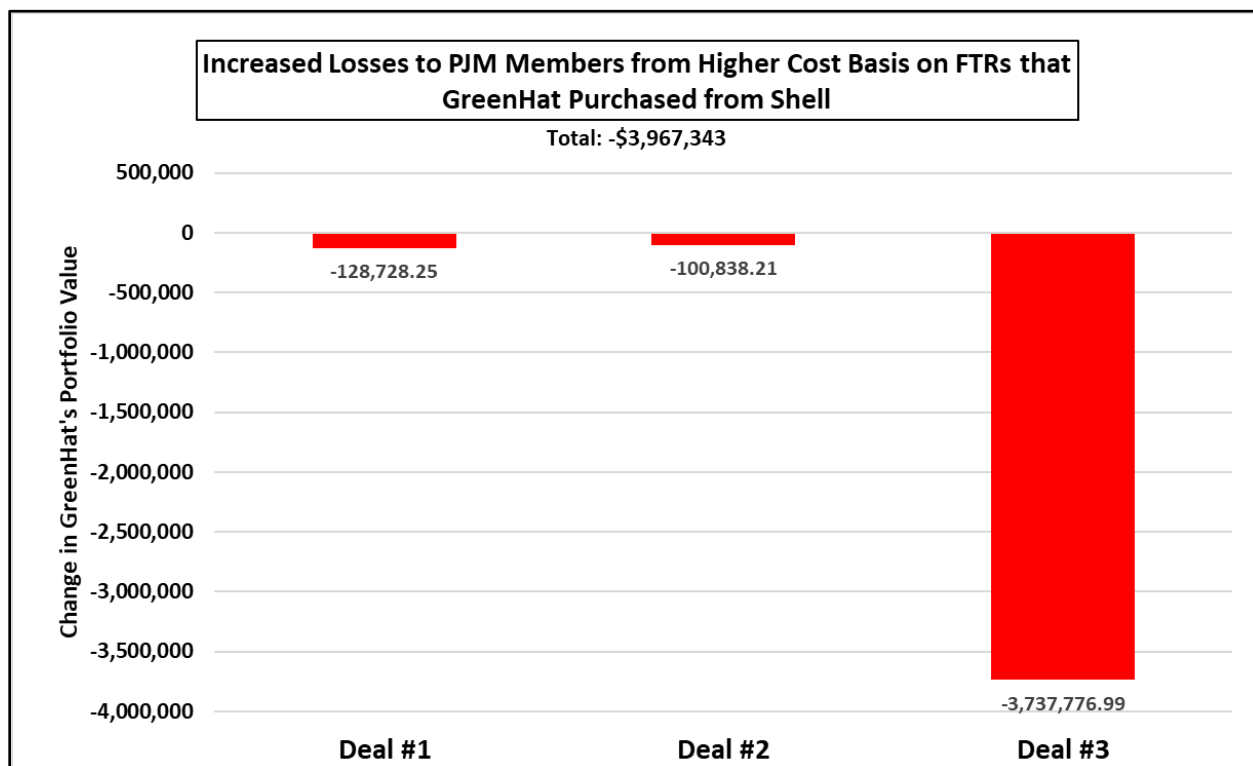
Figure 8: Negative Impact of Higher Cost Basis



In this example, an FTR that would have generated a \$20 profit instead generates a \$22 loss at settlement, for a total impact of -\$42 on GreenHat's default. All told, by repurchasing its own FTRs at inflated prices in the auctions in the three Shell deals, GreenHat drove up the size of its ultimate default—and the losses imposed on other market participants—by nearly \$4 million.¹⁷⁴

¹⁷⁴ PJM_Data_Extract_00001_GreenHat Activity in PJM Auctions;
PJM_Data_Extract_00002_GreenHat Bilateral Transactions;
PJM_Data_Extract_00003_Shell Activity in PJM Auctions During Relevant Period.

Figure 9



In addition to increasing the size of its default (borne by other PJM members) starting in 2018, GreenHat's inflated bids also sent false signals into those FTR auctions.¹⁷⁵

N. September 2017: GreenHat Tells a Potential Investor, Matt Arnold, That It Buys FTRs Based Solely on Collateral Requirements

As discussed above, in September 2017, Bartholomew and Ziegenhorn met with a potential investor, Matt Arnold, about a possible transaction. In an email written the

¹⁷⁵ *Barclays Bank PLC*, 144 FERC ¶ 61,041, at P 53 (2013) (“A number of courts have recognized that transactions undertaken with manipulative intent, rather than a legitimate economic motive, send inaccurate price signals to the market: ‘Because every transaction signals that the buyer and seller have legitimate economic motives for the transactions, if either party lacks that motivation, the signal is inaccurate.’”) (quoting *Brian Hunter*, 135 FERC ¶ 61,054, at PP 47, 53, 62, *order denying reh’g*, 137 FERC ¶ 61,146 (2011), *rev’d on other grounds sub nom. Hunter v. FERC*, 711 F.3d 155 (2013)) (citations omitted).

same day summarizing the meeting, Arnold wrote that GreenHat's strategy was to "exploit an arb in the way PJM calculates credit requirements."¹⁷⁶

O. September 2017: Kittell and Bartholomew Create Spreadsheets Showing that the Market Value of GreenHat's Portfolio Is Negative \$36 Million

In September 2017, both Kittell and Bartholomew created spreadsheets calculating the then-current mark-to-auction value of GreenHat's FTR portfolio. Their calculations were nearly identical: Kittell found that the portfolio was worth -\$36,504,394, while Bartholomew determined that the value was -\$36,619,411.¹⁷⁷ That is, GreenHat's owners saw again that acquiring FTRs based on collateral minimization had created a massively unprofitable portfolio. The owners had, of course, already learned that same thing from having to pay PJM for millions of dollars of losses on the FTRs that GreenHat had acquired in 2014.

P. July-October 2017: GreenHat Repeatedly Contacts Shell to Propose Additional FTR Deals

After implementing their third deal in June 2017, GreenHat repeatedly got in touch with Shell to propose further bilateral sales.¹⁷⁸ Shell declined the invitations. At no time during 2017 did GreenHat disclose to Shell that it had told PJM that Shell owed GreenHat additional money from their previous deals.

Q. January 2018: Kittell Becomes Sole Owner of GreenHat, Although Bartholomew and Ziegenhorn Retain the Right to Share Proceeds of Future Bilateral Deals

On January 22, 2018, the three owners entered into a breakup agreement in which Kittell became the sole owner of GreenHat. Under the deal, Bartholomew and Ziegenhorn were still entitled to (and later did) share in the proceeds of future sales of FTRs to third parties.¹⁷⁹

¹⁷⁶ MA-0000000062 (Email from M. Arnold to P. Dadone) (Sept. 5, 2017, 6:03 p.m.).

¹⁷⁷ GH_0020751 (Kittell spreadsheet); *see* Exhibit 372 (summary of Kittell spreadsheet); GH_0020740.xlsx (Bartholomew spreadsheet); Exhibit 377 (summary of Bartholomew spreadsheet).

¹⁷⁸ *E.g.*, SHELLGHTX_00000261 (Email from A. Kittell to S. Kota & R. Kolkman) (Oct. 26, 2017); SHELLGHTX_00000936 (Email from A. Kittell to R. Kolkman) (July 20, 2017).

¹⁷⁹ GH_0011457 (Membership Interest Purchase Agreement) (Jan. 22, 2018).

R. February-March 2018: Kittell Tries to Raise More Cash by Being Paid to Accept Underwater FTRs from a Third Party (Koch Energy)

In February and March 2018, as GreenHat's default grew near, Kittell tried to persuade Matthew Berend, a former JP Morgan colleague, to have Koch Energy Services (Koch) pay GreenHat \$90,000 in exchange for GreenHat's assuming ownership of negatively-valued FTRs in Koch's portfolio.¹⁸⁰ As with the Shell and BETM deals that GreenHat successfully pursued, the purpose was to generate immediate cash for GreenHat, even though the deal would increase the size of GreenHat's ultimate default.¹⁸¹ But the proposed deal here was the mirror image of the Shell deals: instead of selling winner FTRs to a third party for cash, GreenHat here sought to be paid to accept loser FTRs.¹⁸² Koch ultimately completed the sale with another FTR trading firm.¹⁸³

S. March-April 2018: With Default Imminent, GreenHat Sells Winner FTRs to BETM for \$2 Million, and Quickly Distributes the Money to Kittell, Bartholomew, and Ziegenhorn

On March 23, 2018, GreenHat entered into an agreement with BETM that provided for a "lump sum payment" of \$2 million for a package of profitable FTRs in GreenHat's portfolio.¹⁸⁴ GreenHat's deal with BETM did not have the structure of its Shell deals, in which Shell's purchase price payments were calculated using a formula based on auction results, but instead was a simple asset sale for a fixed price.¹⁸⁵ The deal

¹⁸⁰ KES000128 (Email from A. Kittell to M. Berend) (Feb. 28, 2018). In an email to a colleague, Berend described the proposed deal as follows: "A former colleague runs an FTR business and has interest in purchasing Koch's June 18-May 19 positions. He's motivated to get it done in the next few days because he's about to participate in several auctions." *Id.* (Email from M. Berend to W. Hess) (Feb. 28, 2018).

¹⁸¹ The finder of fact may draw adverse inferences from Kittell's refusal to answer questions about his knowledge that selling winners and buying losers would make GreenHat's remaining portfolio even more unprofitable. *See Kittell Test. Tr.* 400.

¹⁸² KES000146 (Email from M. Berend to W. Hess) (Mar. 2, 2018) (describing mechanics of GreenHat's offer).

¹⁸³ KES000206 (Email from W. Hess to A. David) (Mar. 7, 2018).

¹⁸⁴ GH_0009961 (Sale of PJM Financial Transmission Rights Transactions) (Mar. 23, 2018) ("BETM Agreement").

¹⁸⁵ BETM Agreement § 2(a)-(b). *See also* GH_0010141 (Email from A. Kittell to J. Timmer) (Apr. 19, 2018 at 3:33 p.m.) ("It was a much simpler transaction than the previous ones. We simply transferred over a portfolio to Boston energy [sic] and they paid us the agreed upon price of \$2 million.").

was completed on April 4, 2018, when GreenHat recorded the sale of the FTRs on PJM's FTR Center and BETM paid GreenHat the agreed \$2 million.¹⁸⁶

Kittell, who by then was the sole owner of GreenHat, transferred the profits from the BETM deal to Off Fannin six days later. Per their January 2018 breakup agreement, Off Fannin paid almost all of the BETM proceeds to the three current and former owners on April 23, 2018: Kittell (\$851,000), Bartholomew (\$499,500) and Ziegenhorn (also \$499,500).¹⁸⁷ Three days later, Bartholomew transferred \$301,200 to his wife's bank account.¹⁸⁸ Given the timing of this transfer—only a few weeks before GreenHat's portfolio defaulted, and after Bartholomew saw (in September 2017) that GreenHat's portfolio was deeply underwater—it is a fair inference that Bartholomew made this transfer to conceal the funds from creditors.¹⁸⁹

T. May 2018: PJM Learns that GreenHat's \$62 Million Claim is a Sham, as Shell Learns About That Claim for the First Time

In May 2018, PJM contacted GreenHat about preparations to collect money from a special bank account that GreenHat had created for (supposed) future payments from Shell once GreenHat's 18/19 FTRs began to settle. On May 30, 2018, GreenHat told PJM that it had contacted Shell and that Shell didn't "see any further obligations between the companies."¹⁹⁰

PJM responded with dismay: "Based on your note below, PJM is concerned regarding the representations you and your company have made regarding the value and remaining cash due to GreenHat from the bilateral contract(s) between your company and Shell."¹⁹¹ PJM asked GreenHat to provide PJM with "all correspondence between GreenHat and Shell regarding this matter (up to the present time), and on a going-forward basis, [to] provide any new contemporaneous correspondence with Shell to PJM."¹⁹²

In response, GreenHat forwarded to PJM the "invoices" it had sent to Shell on May 22, along with Shell's responses, which explained that Shell had paid the Final

¹⁸⁶ GH_0034042, GH PJM Settlements Account tab.

¹⁸⁷ GH_0034042, Off Fannin Account tab. On April 11, 2018, GreenHat transferred \$1.85 million to Off Fannin. *Id.* On April 23, 2018, Off Fannin transferred \$499,500 apiece to Bartholomew and Ziegenhorn and \$851,000 to Kittell. *Id.*

¹⁸⁸ JHB 000411 (OCCU Bank Statement) (Apr. 30, 2018).

¹⁸⁹ The Commission may draw adverse inferences from Bartholomew's refusal to answer questions about these facts. *See* Bartholomew Test. Tr. 88-90.

¹⁹⁰ PJM_000478 (Email from A. Kittell to H. Loomis) (May 30, 2018).

¹⁹¹ GH_0008602 (Email from S. Daugherty to A. Kittell) (May 30, 2018).

¹⁹² *Id.*

Purchase Price for each of the three agreements and did not owe GreenHat anything more.¹⁹³

Dear Mr. Kittell:

We have reviewed the information you provided us on May 22, 2018, with respect to your request for payment for transactions listed on the PJM FTR Center trading system that were entered into under the agreement between Shell Energy North America (US), L.P. ("Shell Energy") and GreenHat Energy, LLC ("Greenhat"), dated February 27, 2017 and amended April 28, 2017 (as amended, the "Contract"). All transactions between Shell Energy and GreenHat were fully concluded on June 22, 2017, have been invoiced and settled, and no further obligations exist between the parties.

Regards,



Jill Davies

Senior Vice President

Shell Energy North America (US), L.P.

U. June 2018: GreenHat Defaults

On June 1, 2018, GreenHat's 18/19 FTRs began to settle. GreenHat failed to make its payment for the first week of settlements—totaling \$1,193,965—and for each week's invoice thereafter.¹⁹⁴ PJM declared GreenHat to be in default on June 21, 2018,

¹⁹³ SENA_GREENHAT18_000539 (letter attached to email from S. Tinney to A. Kittell) (May 25, 2018); *see also* SENA_GREENHAT18_000541 (Email from J. Davies to S. Tinney) (June 7, 2018) (after Kittell emailed "the first two invoices (and supporting payment schedules) relating to the PJM eFTR Trades executed in 2016 and 2017 by GreenHat and Shell," internal Shell response was "Sandra please ignore this – we don't have any outstanding transactions with this company."); SENA_GREENHAT18_000530 (Email from O. Nilova to S. Kennedy) (May 22, 2018) ("Andrew with Greenhat called Cindy about 10 times today regarding 'the outstanding transactions.'").

¹⁹⁴ *See* PJM_001301 (Email from S. Daugherty to A. Kittell) (May 30, 2018) ("GreenHat will get their first invoice for its 2018/2019 planning year FTR positions on June 12th, with a payment due on June 15th. If there are no funds in the deposit control account, or if the funds are not sufficient to cover the charges, GreenHat is responsible for providing any additional funds due to PJM. And if any payment is not received in full in accordance with PJM's published billing schedule, GreenHat will be placed in default of the payment provisions of the Operating Agreement as well as GreenHat's obligations in the Partial Assignment and Pledge Agreement."); PJM_000246 (Email from J. Niemeyer to A. Kittell, GreenHat, and J. Bartholomew) (June 12, 2018) ("As of 4:00

and terminated GreenHat's rights to participate as a member of PJM or transact in its markets.¹⁹⁵ Since then, as discussed in the next section, nearly all PJM market participants—including many firms that never traded FTRs—have been billed for GreenHat's losses, as they will continue to be until the last of GreenHat's FTRs settle in May 2021.

V. June 2018-Present: GreenHat's Losses Mount Up and Are Billed to Other PJM Members

Since GreenHat's default, PJM has been required by its Tariff to allocate the losses on GreenHat's FTR portfolio to other PJM members.¹⁹⁶ The following chart from PJM's website shows the amounts that PJM has allocated to other PJM members as of May 14, 2021:¹⁹⁷

p.m. today, PJM did not receive a prepayment or additional collateral as requested in the below breach notice issued on Thursday, June 8 and due today at 4:00 p.m.”); PJM_000079 (Email from G. Roschel to GreenHat and A. Kittell) (June 21, 2018)) (“GreenHat Energy, LLC’s June 1 to June 6, 2018 month-to-date (MTD) invoice from PJM Settlement, Inc. (‘PJM’) in the total amount of \$1,193,964.70 was due and payable on or before 12:00 p.m. EPT (eastern prevailing time) on June 15, 2018.”).

¹⁹⁵ PJM_000079 (Email from G. Roschel to GreenHat and A. Kittell) (June 21, 2018)) (“PJM declares GreenHat Energy, LLC in default of its payment obligations under the PJM Operating Agreement for non-payment of the June 1 to June 6, 2018 MTD invoice.”).

¹⁹⁶ See PJM, *Default Allocation Assessment Related to GreenHat Energy. LLC Default*, <https://www.pjm.com/-/media/markets-ops/ptr/ptr-allocation/default-assessment-allocation-timeline.ashx> (last accessed May 14, 2021); PJM, *Example PJM Default Allocation Calculation* (Aug. 21, 2018), <https://www.pjm.com/-/media/markets-ops/ptr/ptr-allocation/example-pjm-default-allocation-calculation.ashx?la=en> (last accessed Mar. 18, 2021) (10% of the default is allocation to all members (with certain limited exceptions) with a \$10,000 per year cap; the remaining 90% is allocated pro rata to FTR market participants based on the past three months of gross billings).

¹⁹⁷ PJM, *Default Allocation Assessment Related to GreenHat Energy. LLC Default*, <https://www.pjm.com/-/media/markets-ops/ptr/ptr-allocation/default-assessment-allocation-timeline.ashx> (last accessed May 14, 2021).

Default Allocation Assessment Related to GreenHat Energy, LLC Default

Costs related to:	Default Allocation Assessment Amount	Default Allocation Assessment To Be Included in Month-end Invoice for
June 2018 Positions (net of collateral)	\$7,205,632.22	July 2018
July 1-18, 2018 Portion of July 2018 Positions	\$9,430,192.72	
July 19-31, 2018 Portion of July 2018 Positions	\$1,753,290.54	August 2018
August 2018 positions	\$24,075,707.80	
September 2018 Positions	\$7,013,697.53	October 2018
October 2018 Positions	\$8,903,001.23	November 2018
November 2018 Positions	\$11,952,421.83	December 2018
December 2018 Positions	\$6,730,497.94	January 2019
January 2019 positions	\$16,139,982.15	February 2019
February 2019 positions	\$4,235,577.35	March 2019
March 2019 positions	\$6,792,303.75	April 2019
April 2019 positions	\$4,101,677.60	May 2019
May 2019 positions	\$4,994,443.98	June 2019
June 2019 positions	\$2,858,895.19	July 2019
July 2019 positions	\$2,888,677.70	August 2019
August 2019 positions	\$3,999,575.77	September 2019
September 2019 positions	\$7,567,341.65	October 2019
October 2019 positions	\$6,512,314.35	November 2019
November 2019 positions	\$4,845,773.95	December 2019
December 2019 positions	\$5,064,418.70	January 2020
FTR Waiver Settlement – Direct Payments	\$12,500,000.00	January 2020
January 2020 positions	\$5,068,230.80	February 2020
FTR Waiver Settlement – Claimant Payee Fund	\$5,000,000.00	February 2020
February 2020 positions	\$2,971,102.39	March 2020
March 2020 positions	\$1,490,780.43	April 2020
April 2020 positions	\$2,476,473.76	May 2020
May 2020 positions	\$2,522,630.27	June 2020
June 2020 positions	\$616,990.05	July 2020
July 2020 positions	(\$60,007.02)	August 2020
August 2020 positions	(\$143,440.15)	September 2020
September 2020 positions	(\$253,860.98)	October 2020
October 2020 positions	(\$434,836.18)	November 2020
November 2020 positions	\$329,813.54	December 2020
December 2020 positions	\$261,628.01	January 2021
January 2021 positions	\$151,821.91	February 2021
February 2021 positions	\$891,562.18	March 2021
March 2021 positions	\$95,566.97	April 2021
April 2021 positions	(\$1,252,618.52)	May 2021
May 2021 positions	Positions will be settled monthly	June 2021

TOTAL \$ 179,297,261

PJM has billed these amounts to all PJM market participants and will continue to bill them until GreenHat's FTRs finish settling in May 2021. Through April 2021, PJM has "socialized" more than \$179 million in losses on GreenHat's FTR portfolio across the

rest of PJM.¹⁹⁸ Utilities serving retail customers are bearing a large portion of GreenHat’s losses; for example, eight utilities (Virginia Electric & Power Co., Appalachian Power Co., FirstEnergy Solutions Corp., Commonwealth Edison Co., Allegheny Power, Public Service Electric & Gas Co., Buckeye Power, Inc., and Old Dominion Electric Cooperative) are together paying more than 18% of the total GreenHat default amount.¹⁹⁹

W. November 2018: GreenHat Sues Shell for Breach of Contract in Texas State Court

In November 2018, GreenHat sued Shell in Texas state court for breach of contract, alleging that Shell owed it additional money beyond the Final Purchase Price of the firm’s deals.²⁰⁰ In January 2019, GreenHat filed an Amended Complaint, claiming that by entering numbers into PJM’s FTR Center, Shell agreed to pay GreenHat an additional \$68 million across all three deals.²⁰¹ GreenHat’s claim in the Texas lawsuit—that Shell became obligated to pay GreenHat additional money based on entry of data into the FTR Center—is the same as what GreenHat told PJM in April 2017 to try to forestall a collateral call. As discussed above, and as elaborated further below, that claim was baseless and made in bad faith.²⁰²

¹⁹⁸ PJM_088827 (default allocation spreadsheet).

¹⁹⁹ *Id.*

²⁰⁰ GreenHat Energy, L.L.C.’s Original Answer, Counterclaims, Third-Party Claims, and Request for Disclosures, ¶¶ 30, 31, *PJM Interconnection L.L.C. v. GreenHat Energy* No. 2018-69829 (Harris Cty. Tex. Dist. Ct., 190th Judicial District) (filed Nov. 5, 2018).

²⁰¹ GreenHat Energy, L.L.C.’s First Amended Petition, ¶ 29, *GreenHat Energy, LLC v. PJM Interconnection, LLC*, No. 2018-69829-A (Harris Cty. Tex. Dist. Ct., 190th Judicial District) (filed Jan. 8, 2019) (“By conducting trades over the PJM bilateral trading system, GreenHat agreed to sell, and Shell Energy agreed to buy, each FTR at the price specified in the price box.”); *id.* at ¶ 30 (“Shell Energy breached its obligations under the parties’ agreement by failing to pay GreenHat the price specified for each trade made on approximately 3879 FTRs, which total approximately \$68 million.”).

²⁰² In a declaratory judgment proceeding brought by Shell, after rejecting GreenHat’s theory that use of the FTR Center automatically creates new contracts, the Commission declined to take primary jurisdiction under the *Arkla v. Hall* doctrine over the Texas lawsuit. *Shell Energy North America (US), L.P.*, 173 FERC ¶ 61,153, at PP 76-81, *reh’g denied*, 175 FERC ¶ 61,025. The Commission observed in the *Shell* order, however, that “[t]he Commission has the authority under the FPA and its regulations to determine whether market participants have engaged in conduct inconsistent with the FPA, and if so to take appropriate action.” 173 FERC ¶ 61,153 at P 81. The present proceeding is precisely such an “appropriate action.”

VI. APPLICABLE LAW

A. Section 222 of the FPA and the Commission's Anti-Manipulation Rule

Section 222 of the FPA prohibits, in relevant part, “any entity (including an entity described in section 201(f)), directly or indirectly, to use or employ . . . any manipulative or deceptive device or contrivance (as those terms are used in section 10(b) of the Securities Exchange Act of 1934)”²⁰³ The Commission subsequently enacted the Anti-Manipulation Rule, 18 C.F.R. § 1c.2, which states:

- (a) It shall be unlawful for any entity, directly or indirectly, in connection with the purchase or sale of electric energy or the purchase or sale of transmission services subject to the jurisdiction of the Commission,
 - (1) To use or employ any device, scheme, or artifice to defraud,
 - (2) To make any untrue statement of material fact or to omit to state a material fact necessary in order to make the statement made, in the light of the circumstances under which they were made, not misleading, or
 - (3) To engage in any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity.²⁰⁴

As the Commission explained in Order No. 670, the elements of a violation are: “(1) us[ing] a fraudulent device, scheme or artifice, or mak[ing] a material misrepresentation . . . or engag[ing] 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 of electric energy subject to the jurisdiction of the Commission.”²⁰⁵

The Commission also explained in Order No. 670 that it “defines 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.”²⁰⁶

The Commission has repeatedly held that “[a]n entity need not violate a tariff, rule or regulation to commit fraud.”²⁰⁷ A corollary to that principle is that so-called “open

²⁰³ 16 U.S.C. § 824v(a).

²⁰⁴ 18 C.F.R. § 1c.2 (2020).

²⁰⁵ Order No. 670, 114 FERC ¶ 61,047 at P 49.

²⁰⁶ *Id.* P 50.

²⁰⁷ *Houlian Chen*, 151 FERC ¶ 61,179, at P 5 (2015) (quoting *Competitive Energy Services, LLC*, 144 FERC ¶ 61,163, at P 50 (2013) (citations omitted); *Richard Silkman*, 144 FERC ¶ 61,164 at P 50; *Lincoln Paper and Tissue, LLC*, 144 FERC ¶ 61,162, at P 36

market” transactions – those that can be observed by the market and are otherwise subject to market forces – still may be deceptive and fraudulent. The Commission has explained that such transactions can be deceptive and fraudulent when they create the illusion of a legitimate transaction, while concealing their true manipulative purpose.²⁰⁸ As the Commission has stated, “[t]he difference between legitimate open-market transactions and illegal open-market transactions may be nothing more than a trader’s manipulative purpose for executing such transactions.”²⁰⁹

“To establish scienter, Order No. 670 requires reckless, knowing, or intentional actions taken in conjunction with a fraudulent scheme, material representation, or material omission.”²¹⁰ Scienter can be “established by legitimate inferences from circumstantial evidence. These inferences are based on the common knowledge of the motives and intentions of [people] in like circumstances.”²¹¹ A manipulative purpose,

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

²⁰⁸ *See, e.g., Vitol Inc.*, 169 FERC ¶ 61,070, at P 95 (2019) (“[T]he Commission finds that Respondents acted with fraudulent intent by engaging in physical transactions to prevent losses on their CRR position, not to profit based on supply and demand fundamentals, and that, by trading for this purpose, Respondents injected false and deceptive information into the marketplace.”); *ETRACOM LLC and Michael Rosenberg*, 155 FERC ¶ 61,284, at P 174 (2016) (“By creating import congestion and driving down the day-ahead LMP at New Melones, ETRACOM injected false information into the marketplace that is critical to rational economic decision-making.”).

²⁰⁹ *Barclays*, 144 FERC ¶ 61,041 at P 52 (citations omitted).

²¹⁰ *Coaltrain Energy, L.P.*, 155 FERC ¶ 61,204, at P 213 (2016) (citing Order No. 670, at PP 52-53).

²¹¹ *Barclays*, 144 FERC ¶ 61,041 at P 75 (citations and quotations omitted); *see FERC v. Coaltrain Energy, LP*, 2020 WL 7767498, at *27 (S.D. Ohio Nov. 18, 2020) (“[R]equiring a fact-finder to make an inference from the evidence is not improper; indeed, that is exactly the point of using circumstantial evidence. Circumstantial evidence has the same weight as direct evidence, even in the fraud context, despite Defendants’ desire and arguments to the contrary.”) (citing *Desert Palace, Inc. v. Costa*, 539 U.S. 90, 100 (2003) (“The reason for treating circumstantial evidence and direct evidence alike is both clear and deeply rooted: ‘Circumstantial evidence is not only sufficient, but may also be more certain, satisfying and persuasive than direct evidence.’” (internal citation omitted))); *New England Health Care Emps. Pension Fund v. Ernst & Young, LLP*, 336 F.3d 495, 502 (6th Cir. 2003) (“[D]irect evidence of scienter is not necessary to a determination of fraud.”); and *United States v. Gandy*, 926 F.3d 248, 257 (6th Cir. 2019) (“Although there was no direct evidence proving [defendant’s] intent [to

even if not the sole purpose, but combined with a separate legitimate purpose, satisfies the scienter element.²¹²

“[A]ny entity may be subject to [the Anti-Manipulation Rule] if its fraudulent or manipulative conduct is ‘in connection with’ a purchase or sale of . . . electric energy . . . that is subject to the Commission’s jurisdiction.”²¹³ That requirement is met where “there is a nexus between the fraudulent conduct of an entity and a jurisdictional transaction.”²¹⁴

B. PJM Tariff and Operating Agreement

The Commission has the authority under the FPA to impose sanctions for violations of the PJM Tariff and of its Operating Agreement.²¹⁵ The relevant sections of the Tariff and Operating Agreement are discussed below.

VII. VIOLATIONS

As detailed below, GreenHat and its owners engaged in a manipulative scheme that violated the FPA and the Commission’s Anti-Manipulation Rule. In addition, GreenHat violated the PJM Tariff and Operating Agreement.

A. GreenHat, Kittell, Bartholomew, and Ziegenhorn Violated the FPA’s Anti-Manipulation Provision and the Commission’s Anti-Manipulation Rule

GreenHat engaged in a manipulative scheme by indiscriminately acquiring long term FTRs based only on collateral requirements, selling winner FTRs to third parties for immediate cash before settlement, and then (as planned) defaulting on the remainder of

commit mail fraud], the jurors heard ample circumstantial evidence from which they could conclude that she knew that the trusts were created for an illicit purpose ... [indeed] [i]ntent to defraud can be proven by circumstantial evidence and inferences drawn from the scheme itself.”) (internal citation omitted).

²¹² *Barclays*, 144 FERC ¶ 61,041 at P 70; *see FERC v. Coaltrain Energy, LP*, 2020 WL 7767498, at **19-22 (S.D. Ohio Nov. 18, 2020) (holding that traders may be held liable for market manipulation if the “sole or primary” purpose of the trades was improper).

²¹³ Order No. 670, 114 FERC ¶ 61,047 at P 21.

²¹⁴ *Id.* P 22.

²¹⁵ *E.g., PSEG Energy Resources & Trade, LLC*, 163 FERC ¶ 61,056 at PP 1, 8 (2018) (Order Approving Stipulation and Settlement Agreement). Section 316A(b) of the FPA gives the Commission the authority to impose penalties for “any violation of Part II of the FPA and any rule or order thereunder.” 16 U.S.C. 825o-1(b). The Commission has, by order, approved PJM’s Operating Agreement.

its massively unprofitable portfolio. When PJM confronted GreenHat in 2017 with a proposal to issue what would have been a bankrupting margin call, GreenHat's owners fabricated a nonexistent asset to try to placate PJM. As discussed below, this conduct violated section 222 of the FPA and 18 C.F.R. § 1c.2 in four different ways.

The record contains multiple indicia of fraud, which taken together indicate that GreenHat engaged in a fraudulent FTR trading scheme,²¹⁶ including (a) the unbroken pattern of GreenHat's acquisition of a huge portfolio of FTRs based not on fundamentals but on acquiring FTRs with little or no cash outlay, (b) GreenHat's successful execution of a plan to extract cash from the winners in its portfolio by selling them to third parties, while planning to pay little or nothing for losses on its portfolio at settlement, (c) GreenHat's false statements to third parties that the purpose of selling FTRs in its portfolio was to generate cash needed for its business, (d) GreenHat's actions, along with Matt Arnold's report based on a meeting with GreenHat, showing that it did not intend to pay what it owed upon default, (e) GreenHat's repurchases, at higher prices, of FTRs it had just sold to Shell, which were uneconomic from the perspective of a legitimate FTR trader, (f) the three owners' quick transfers of cash from the Shell and BETM deals to their own bank accounts (and sometimes from there to the accounts of their relatives), which left no funds to cover a default, and (g) GreenHat's invention of a non-existent \$62 million debt from Shell to try to forestall a PJM collateral call.²¹⁷

1. GreenHat and Its Owners Violated the FPA and the Anti-Manipulation Rule in Four Different Ways

Beginning in June 2015, GreenHat, Kittell, Bartholomew, and Ziegenhorn committed four distinct types of violations of the FPA and the Commission's Anti-Manipulation Rule. Through all of this conduct, GreenHat and its owners violated 18 C.F.R. § 1c.2(a)(1), which prohibits "any device, scheme, or artifice to defraud," as well as 18 C.F.R. § 1c.2(a)(3), which prohibits "any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity."²¹⁸ In addition, GreenHat's false statements to PJM about a supposed \$62 million debt from Shell violated 18 C.F.R. § 1c.2(a)(2), which makes it unlawful "[t]o make any untrue statement of material fact or to omit to state a material fact necessary in order to make the statement made, in the light of the circumstances under which they were made, not misleading."²¹⁹

²¹⁶ See *Barclays*, 144 FERC ¶ 61,041 at P 32 ("Fraud is a question of fact to be determined by all the circumstances of a case.").

²¹⁷ See *id.* (listing indicia of fraud).

²¹⁸ 18 C.F.R. § 1c.2(a)(1), (3) (2020).

²¹⁹ *Id.* § 1c.2(a)(2).

a. GreenHat Engaged in a Classic Type of Fraud

GreenHat's conduct in PJM's FTR market is a textbook example of a type of fraud in which perpetrators acquire assets with no intent to pay for them, and then use the assets to generate cash (or other benefits) for themselves. One common version—the type most similar to GreenHat's scheme—is when perpetrators acquire a large inventory of goods from a vendor with no intention of paying for them, and then “busy themselves disposing of their purchases at substantial discounts.”²²⁰ A second type is when individuals acquire a credit card, pay their bills for a period of time, and then rack up huge credit card charges with no intent to pay the credit card company.²²¹ A third variety

²²⁰ *Crockett*, 534 F.2d 589 at 592 (“As the business becomes more established, its promoters *order considerable amounts of additional merchandise although they have no intention of paying for these goods*. A huge inventory, most of it not paid for, is built up. The principals then busy themselves *disposing of their purchases at substantial discounts* or secreting the unsold portion for later below-cost covert sales. In other words, they ‘bust out’ the business.”) (emphasis added)).

Many cases describe similar schemes, sometimes using the same term—“bust-out”—to describe them. *See, e.g., ePlus Tech., Inc. v. Aboud*, 313 F.3d 166, 170–71 (4th Cir. 2002) (“At the outset of the scheme, the corporation’s bills are paid, and its creditors are lured into extending larger and larger lines of credit. The schemers then use these inflated credit lines to obtain merchandise from suppliers, sell the merchandise at fire sale prices, and loot the corporation of its assets. Ultimately, the debtor corporation files for bankruptcy, and creditors can lose millions from unpaid and uncollectible debts. . . . [Defendant] executed such a bust-out scheme”); *United States v. Schneider*, 111 F.3d 197, 199 (1st Cir. 1997) (defendant “ordered on credit a variety of goods, including computer equipment and jewelry, the total value of which exceeded \$200,000. Beginning shortly thereafter, [defendant] began to resell the same goods and pocket the money. . . . [Defendant] . . . offer[ed] to resell the goods in question at deep discounts,” while “pa[ying] nothing to his suppliers.”); *United States v. Cobleigh*, 75 F.3d 242, 245 (6th Cir. 1996) (“The ‘bustout’ scheme in question involved setting up a wholesale business at a temporary location, placing orders by telephone to legitimate businesses, taking delivery of merchandise shipped on credit, disposing of the goods received at below fair market value, and making no or only minimal payments for the goods received on credit.”); *Kaplan v. United States*, 7 F.2d 594, 595 (2d Cir. 1925) (Hand, J.) (“The general conduct of the business justified the jury in finding that from the start the whole venture had been a scheme . . . to obtain supplies, make quick sales, collect the proceeds, and then allow the company to fall into bankruptcy, making off with such loot as might meanwhile have been gathered.”).

²²¹ *In re Hashemi*, 104 F.3d 1122, 1126 (9th Cir. 1996), *as amended* (Jan. 24, 1997) (“Each time a ‘card holder uses his credit card, he makes a representation that he intends

is when a travel agency acquires a large volume of airline tickets without paying for them in advance, sells them at a steep discount to ensure quick sales, and then (by plan) fails to pass on the proceeds to the ticket-issuing firm.²²²

As discussed above, the key elements of GreenHat's overall scheme were as follows:

- Assemble an enormous FTR portfolio with virtually no upfront cash;
- Buy only long-term FTRs, which give GreenHat ample time to try to sell the FTRs to third parties;
- Plan (as the totality of the evidence shows) not to pay for losses at settlement; and
- Obtain cash for GreenHat's owners by selling profitable FTRs to third parties at a discount.

When considering these factors together, it becomes clear that GreenHat is liable for executing a fraudulent scheme. Although the assets employed in the scheme are financial instruments rather than goods or airline tickets, GreenHat's scheme is equally fraudulent.

to repay the debt. . . . When the card holder uses the card without an intent to repay, he has made a fraudulent representation to the card issuer.” [citation omitted] . . . Because the bankruptcy court found that appellant had no intention of repaying his debt, each time he used his cards he made a fraudulent representation to American Express.”); *see* Investopedia, *Bust-Out*, <https://www.investopedia.com/bust-out-definition-4684002> (last visited March 12, 2021) (“A bust-out is a type of credit card fraud where an individual applies for a credit card, establishes a normal usage pattern and solid repayment history, then racks up numerous charges and maxes out the card with no intention of paying the bill.”).

²²² *United States v. Germosen*, 139 F.3d 120, 123 (2d Cir. 1998) (“A ‘bust-out’ is a fraudulent scheme in which a travel agency sells airline tickets to customers but then fails to remit the proceeds to [the issuing firm]. . . . To reap substantial profits, the ‘busting-out’ agency must order a large quantity of ticket stock and sell as many tickets as possible—usually at a cut-rate price—in a very short period of time.”); *United States v. Abozid*, 257 F.3d 191, 193 (2d Cir. 2001) (defendant “created a large number of valid airline tickets without orders from customers, sold them at a deep discount to individuals or other agencies, and pocketed the cash without reimbursing the airlines. In travel-agency jargon, this was a ‘bust out.’”).

b. GreenHat Purchased FTRs Based Not on Market Considerations But to Amass as Many FTRs as Possible with Minimal Collateral

Despite losing large amounts of money on its late 2014 purchases of FTRs, which began settling in June 2015, GreenHat continued acquiring FTRs using the same selection process through May 2018. That is, GreenHat continued to decide which FTRs to buy not based on market fundamentals—expectations of future congestion changes—but on acquiring as many FTRs as it could with no (or minimal) cash outlay. As cases under both the FPA and the securities laws have held, traders are presumed to be placing trades based on their underlying economic value.²²³ GreenHat and its owners did the opposite: as they told Kevin Kelley, they ignored fundamentals and instead bought FTRs based on minimizing collateral requirements. In this way, they amassed the largest FTR portfolio in PJM with only \$559,447 of their own funds at stake, which amounted to 1/368 as much collateral per MWh as the other top 10 FTR holders. By submitting bids designed not to build a profitable portfolio but to make money by a different, improper means (in this case, selling the winner FTRs and defaulting on the rest), GreenHat sent false price signals to the PJM marketplace,²²⁴ obtained more than \$13 million in unlawful gains for its owners, and imposed more than \$179 million in losses on other PJM market participants.

c. GreenHat Made False and Deceptive Statements to PJM About a Non-Existent \$62 Million Debt from Shell

When PJM told GreenHat in the spring of 2017 that it proposed to issue a special margin call because GreenHat's FTR portfolio was deeply in the red, GreenHat falsely assured PJM in April 2017 that Shell owed GreenHat \$62 million from two previous deals. In reality, Shell had already paid GreenHat everything it owed on those deals. The purpose of GreenHat's deceptive claims to PJM about the supposed \$62 million Shell debt was to enable GreenHat to continue to implement the manipulative scheme described above. After entering into an agreement with PJM pledging the supposed

²²³ See *FERC v. Coaltrain Energy, LP*, 2018 WL 7892222 at *13 (“*Markowski* [*v. SEC*, 274 F.3d 525, 529 (D.C. Cir. 2001)] and *Koch* [*v. SEC*, 793 F.3d 147, 152–56 (D.C. Cir. 2015)] thus reveal an important point: under Section 10(b) [on which the FPA’s anti-manipulation provision is modeled], securities traders are not free to trade for whatever purpose they wish. Traders are presumed to be trading on the basis of their best estimates of a security’s underlying economic value, *see, e.g., ATSI Commc’ns, [Inc. v. Shaar Fund]*, 493 F.3d [87], 100–01 [(2d Cir. 2007)], and to trade for other purposes can be deceptive.”) (quoting *FERC v. City Power Marketing, LLC*, 199 F. Supp. 3d 218, 235 (D.D.C. 2016); *see FERC v. Coaltrain Energy, LP*, 2020 WL 7767498, at 21 (Nov. 18, 2020) (same).

²²⁴ See *Barclays*, 144 FERC ¶ 61,041 at P 53.

future proceeds of that non-existent debt to PJM, GreenHat did just that: it continued to acquire large volumes of FTRs and sold still more winners to third parties as part of the scheme described above.

d. GreenHat Rigged PJM's Long Term FTR Auctions by Repurchasing FTRs It Had Just Sold to Shell to Drive Up the Amount of Cash It Would Obtain from Shell

Fourth, GreenHat engaged in an additional form of fraud by using advance knowledge of the prices at which a seller (Shell) would offer FTRs into PJM auctions to bid for those FTRs in the same (or double) the volumes of Shell's offers and at a specific markup to Shell's offer prices. The purpose of these bids was to ensure that more of the FTRs cleared and that they cleared at higher prices. This conduct would be irrational from the perspective of a legitimate FTR trader because GreenHat was re-purchasing FTRs it had owned a few days before, but at a higher price. GreenHat made inflated bids on these FTRs, not with the legitimate goal of acquiring FTRs because of their value as investments, but to drive up the amount of immediate cash that Shell paid to GreenHat pursuant to their bilateral deals.

The prices at which GreenHat bid to repurchase "its own" FTRs were not based on market fundamentals, but instead were simply designed to maximize the number of its bids that would clear at high prices, based on advance, nonpublic knowledge of the seller's offer prices. By submitting these bids, GreenHat sent false price signals into the PJM marketplace.²²⁵ These fraudulent bids also had the effect of increasing the size of the losses that GreenHat imposed on other PJM members when it defaulted in June 2018.

In addition to constituting fraudulent auction rigging, GreenHat fraudulently engaged in uneconomic trading in PJM's long term FTR auction (repurchasing at a higher price FTRs it had just transferred to Shell) to benefit its contractual arrangements with Shell (upfront cash payments based on the clearing price in the auction).²²⁶

2. GreenHat and Its Owners Acted with the Requisite Scienter

Enforcement staff finds that GreenHat and its owners carried out their scheme intentionally and deliberately. They consistently followed the same plan for years:

²²⁵ See notes 223 & 224 above.

²²⁶ Cf. *Vitol Inc.*, Order Assessing Civil Penalties, 169 FERC ¶ 61,070 (2019); *ETRACOM LLC and Michael Rosenberg*, Order Approving Stipulation and Consent Agreement, 163 FERC ¶ 61,022 (settlement after issuance of Order Assessing Civil Penalties and federal court litigation); *Barclays Bank PLC*, Order Approving Stipulation and Consent Agreement, 161 FERC ¶ 61,147 (2017) (same).

buying FTRs based not on fundamentals but on collateral requirements, with no intent (as shown by the totality of the evidence) to pay for losses; building up a huge FTR portfolio; and selling winner FTRs to third parties for cash whenever they found a willing customer. In addition to demonstrating their intent through their actions, GreenHat's owners candidly discussed the motives behind their FTR trading with third parties such as Kevin Kelley and Matt Arnold.²²⁷ They engaged in deception to keep their scheme going: when faced with the possibility that PJM would make it impossible for them to continue their scheme, they invented an imaginary \$62 million receivable to dissuade PJM from doing so. And in addition to extracting cash for themselves through sales of winner FTRs to third parties, GreenHat sought, only a few months before defaulting, to take on losing FTRs for cash from Koch Energy. As GreenHat knew, its third-party sales raised cash for its owners while increasing the size of its ultimate default; the attempted purchase of underwater FTRs from Koch Energy would have done the same.²²⁸ All of this shows that GreenHat acted with scienter.

3. GreenHat's Conduct Was in Connection with Jurisdictional Transactions

As the Commission has repeatedly held, it has jurisdiction over trading by financial firms in FTRs (or Congestion Revenue Rights (CRRs), as they are called in CAISO). Most recently, in *Vitol*, the Commission noted that the D.C. Circuit has affirmed the Commission's "authority [under the FPA] to regulate the activity of traders who participate in energy markets."²²⁹ As the Commission explained in *Vitol*, the trades at issue were "implemented under CAISO's Commission-approved tariff" within a market operated by "a Commission-regulated independent system operator," and was therefore "under our jurisdictional purview."²³⁰

B. GreenHat Violated the PJM Tariff and Operating Agreement

GreenHat's conduct also violated PJM's Operating Agreement and Tariff. In its *Application for Membership Between PJM Interconnection, LLC and GreenHat Energy, LLC*, GreenHat "agree[d] to accept the concepts and obligations set forth in [that]

²²⁷ See pp. 5-6, 20-21, 39-40, 61-62 above.

²²⁸ Under the FPA, attempts to engage in market manipulation are actionable, whether or not they are successful. *FERC v. Maxim Power Corp.*, 196 F. Supp. 3d 181, 200 (D. Mass. 2016).

²²⁹ *Vitol Inc.*, 169 FERC ¶ 61,070 at P 187 (quoting *Kourouma v. FERC*, 723 F.3d 274, 276 (D.C. Cir. 2013)).

²³⁰ *Id.*

Agreement and the Operating Agreement posted on the PJM website. . . .”²³¹ GreenHat also “agree[d] to pay all costs and expenses in accordance with the Operating Agreement and all other applicable costs under the PJM Open Access Transmission Tariff (‘Tariff’).”²³² GreenHat’s failure to pay for the losses it incurred on its FTRs starting in June 2018 violated, and continues to violate, its obligation to “make full and timely payment . . . of all bills rendered in connection with or arising under or from” the Operating Agreement.²³³

GreenHat also made false certifications in its annual Officer Certification Forms submitted to PJM for the years 2014 through 2018. GreenHat was required to submit the Form pursuant to Attachment Q of the PJM Tariff.²³⁴ In Sections 3(b), 5, and 6(a) of the Forms, GreenHat falsely certified, among other things, that it employed on “no less than a weekly basis . . . industry accepted valuation methodologies,” that it limited its risk “using industry recognized practices, such as value-at-risk limitations, concentration limits, or other controls designed to prevent [GreenHat] from purposefully or unintentionally taking on risk that is not commensurate or proportional to [GreenHat’s] financial capability to manage such risk,” and that the financial statements submitted by GreenHat fairly present “the financial position of [GreenHat] as of the date of those financial statements”²³⁵ For all the reasons set forth in this document, those statements were false.

VIII. GREENHAT’S CONTENTIONS ARE UNPERSUASIVE

²³¹ 052970_PJM (Application Between PJM Interconnection, LLC and GreenHat Energy, LLC) (signed by J. Bartholomew on Sept. 16, 2014).

²³² *Id.*

²³³ *See* PJM Operating Agreement § 15.1.3 (as in effect until May 2020) (“A Member shall make full and timely payment, in accordance with the terms specified by the Office of the Interconnection, of all bills rendered in connection with or arising under or from this Agreement, any service or rate schedule, any tariff, or any services performed by the Office of the Interconnection or transactions with PJM Settlement. . . .”).

²³⁴ PJM Tariff, Attachment Q, § B (Jan. 18, 2016) (GH_0001913) (“All Participants shall provide to PJMSettlement an executed copy of the annual certification set forth in Appendix 1 to this Attachment Q. This certification shall be provided before an entity is eligible to participate in the PJM Markets and shall be initially submitted to PJMSettlement together with the entity’s Credit Application.”).

²³⁵ *See id.* (“Participants acknowledge and understand that the annual certification constitutes a representation upon which PJM Settlement will rely. Such representation is additionally made under the Tariff, filed with and accepted by FERC, and any inaccurate or incomplete statement may subject the Participant to action by FERC.”).

On September 21, 2020, GreenHat, Kittell, Bartholomew, and Ziegenhorn submitted a combined response to Enforcement staff's PF Letter. In response to Enforcement staff's 1b.19 letter, Bartholomew and Ziegenhorn told staff on March 29, 2021 that they would continue to rely on the GreenHat Response to staff's PF Letter but would not submit anything else in response to the 1b.19 letter. GreenHat and the Kittell Estate have not submitted any response to the 1b.19 letter. As shown below, the only submission from any of the Respondents to Enforcement staff's allegations—GreenHat's Response to Enforcement staff's PF Letter—offers no rebuttal at all to many of the points in the PF Letter and no meaningful response to the matters it does address.

A. GreenHat Cites Nothing to Rebut the Record Evidence That Its Goal in Buying FTRs Was to Minimize Collateral

As documented in detail above (at pp. 18-28), GreenHat chose what FTRs to buy based not on their attractiveness as investments but on minimizing the collateral it was required to deposit with PJM. In its Response, GreenHat concedes that—as described in detail in Attachment C—its method for choosing FTRs was to use PJM's Credit Calculator spreadsheet to find the package of FTRs that would minimize its collateral requirement.²³⁶

Despite this admission, GreenHat repeatedly asserts that it chose what FTRs to buy based on maximizing expected profitability.²³⁷ In particular, GreenHat claims,

²³⁶ See pp. 80-83 below; GreenHat Response, Attachment 1, at 10.

²³⁷ GreenHat Response at 1 (“GreenHat acquired and traded FTRs with the expectation that the FTRs it acquired would be very profitable.”); *id.* at 6 (“GreenHat purchased and traded FTRs lawfully and with the reasonable, good-faith belief—based on PJM’s own forecasts—that its portfolio would be profitable.”); *id.* at 7 (“GreenHat continued to rely on PJM’s valuation methodologies when PJM updated its credit requirements in early 2018 GreenHat took comfort in PJM’s representations to the Commission regarding the PROMOD-adjusted forecasts of future congestion , . . .”); *id.* at 7-8 (“Using PJM’s valuation methodologies, GreenHat always expected to make money; indeed it expected to make a lot.”); *id.* at 8 (“GreenHat was primarily concerned with the profitability of its FTRs as investments”); *id.* (“building a portfolio of FTRs that were anticipated to be profitable also allowed GreenHat to minimize collateral costs.”); *id.* at 9 (“GreenHat traded to acquire *profitable* FTRs.”) (emphasis in original); *id.* (“[GreenHat] was trading based on expected profitab[ilit]y.”); *id.* (“GreenHat acquired and traded FTRs with the expectation—based on PJM’s own valuation methodologies—that its portfolio would be profitable.”); Ledgerwood Report at ¶ 11, 12th bullet (“GreenHat acquired its portfolio of FTRs in each auction expecting a stand-alone profit”); *id.* ¶ 26 (“it is reasonable that GreenHat would rely on those same adjusted historical values for estimating the future values of the FTRs it considered trading in PJM’s FTR auctions and bilateral market”); *id.*, ¶ 36 (“GreenHat continued to try to

without citing evidence, that when GreenHat's owners used the Credit Calculator to choose FTRs that would minimize its collateral, the owners' *real* goal was to find the most profitable FTR portfolio based on supposed PJM congestion "forecasts."²³⁸ But GreenHat does not cite any testimony or declaration from Kittell, Bartholomew, or Ziegenhorn in support of this claim about their intent, nor does it identify any document in which any of the three stated any such thing. The unsupported claims about GreenHat's intent in its Response are contradicted by both GreenHat's words and its actions.

1. **The Evidence Discussed Above Shows that GreenHat's Strategy Was Not to Create a Profitable Portfolio But to Build a Huge Portfolio With Virtually No Upfront Cash**

GreenHat's Response fails to address the evidence discussed above showing that it chose what FTRs to purchase not with the goal of building a profitable portfolio but instead an enormous portfolio while posting minimal collateral:

- GreenHat does not mention or attempt to explain Kittell's statement to Kevin Kelley in 2016 that GreenHat "**purchas[ed] FTRs based upon hold collateral requirements only**" and was "**just strictly buying based upon credit requirements.**"²³⁹
- GreenHat does not mention that based on a 2016 meeting with Ziegenhorn, investor Matt Arnold described GreenHat as "three guys who put the portfolio

engage in profitable, credit-reducing trades"); *id.* ¶ 37 ("GreenHat legitimately assembled its FTR portfolios in pursuit of profits during the Initial Period based on recent weighted average congestion values"); *id.* ¶ 40 ("Based on my preliminary analysis of its trading activity, it appears that GreenHat acquired FTRs based on two related characteristics: *the expected profitability of the FTRs*, and the impact that those FTRs had on its credit requirements. . . . Apparently seeking these objectives, GreenHat relied on congestion forecasts, like those used by PJM's credit calculators, to identify paths and quantities of FTRs that were attractive.") (emphasis in original); *id.* ¶ 97 ("GreenHat tried to acquire profitable, credit-reducing FTRs using the most recently available weighted historical values"); *id.* ¶ 106 ("GreenHat did not commit fraud or otherwise manipulate this process, but exacerbated its ultimate default due to its reliance on PJM's forecasts").

²³⁸ See, e.g., GreenHat Response at 1, 7; Attach. 1 at 12; Ledgerwood Report at ¶¶ 26, 40.

²³⁹ Hotline email (Roscommon_00001) (Email from K. Kelley to Enforcement Hotline) (June 25, 2018) (emphasis added).

together to **exploit an arb in the way PJM calculates credit reserve leveraged long position.**”²⁴⁰

- GreenHat does not dispute that, as its portfolio grew by a factor of 71, its cash deposits with PJM shrank by a factor of nine.²⁴¹ Nor does it deny that when it defaulted in June 2018, **it had less than 1/16th of a penny of collateral per MWh**, as compared to an average of 23 cents/MWh for the other top FTR traders.²⁴² The only plausible explanation for these facts is that GreenHat’s goal was to minimize collateral.
- GreenHat does not deny that it knew from its own experience that buying FTRs with the goal of minimizing collateral was a poor investment strategy. **GreenHat had paid \$2.2 million into PJM for losses** on FTRs it bought in 2014 with that approach. And Kittell’s and Bartholomew’s mark-to-auction analyses of GreenHat’s FTR holdings in 2017 showed that this technique had resulted in a portfolio that was **\$36 million underwater.**²⁴³

2. GreenHat Concedes that It Used the Credit Calculator to Choose FTRs To Minimize its Collateral Obligation

As set forth above and in Attachment C, GreenHat’s own spreadsheets show that it chose FTRs by using the Solver function in Excel with data from the Credit Calculator to find the set of FTRs that would minimize its collateral requirements. Instead of disputing that fact, GreenHat confirms it: the Response includes (in Attachment 1) a screenshot of another Excel spreadsheet in which GreenHat did the same thing:²⁴⁴

²⁴⁰ MA-0000000062 (Email from M. Arnold to P. Dadone) (Sept. 5, 2017, 6:03 p.m.) (emphasis added).

²⁴¹ See pp. 24-27 above.

²⁴² *Id.*

²⁴³ GH_0020751.xlsx (Kittell spreadsheet); see Exhibit 372 (summary of Kittell spreadsheet); GH_0020740.xlsx (Bartholomew spreadsheet); Exhibit 377 (summary of Bartholomew spreadsheet). Although GreenHat now disparages mark-to-auction valuations (see GreenHat Response at 8-9), its owners exclusively used those valuations—and never used Credit Calculator values—in deciding what FTRs to offer to third parties (see note 58 above).

Contrary to GreenHat’s suggestion (Response at 1), Enforcement staff does not contend that GreenHat engaged in market manipulation by failing to mark its portfolio to market more often. Rather, the basis for staff’s allegations of wrongdoing is set forth at pp. 71-77 above.

²⁴⁴ GreenHat Response, Attachment 1, at 10.

Solver Parameters

Set Objective: **\$K\$6**

To: ☐ Max ☒ **Min** ☐ Value Of: 0

By Changing Variable Cells: **\$D\$3:\$E\$4,\$O\$14:\$A\$15,\$R\$15:\$U\$15,\$D\$5**

Subject to the Constraints:

- \$A\$14:\$A\$14 <= 150
- \$A\$14:\$A\$14 >= -0.5
- \$D\$3 <= 10
- \$D\$3 >= -1
- \$D\$4 <= 10
- \$D\$4 >= -1
- \$D\$5 <= 0
- \$D\$5 >= -10000
- \$D\$7 >= 1000
- \$E\$3:\$E\$4 <= 10000
- \$E\$3:\$E\$4 >= 0
- \$K\$2 <= 0
- \$M\$17 <= 0

☒ Make Unconstrained Variables Non-Negative

Select a Solving Method: **Evolutionary**

Buttons: Add, Change, Delete, Reset All, Load/Save, Options

	J	K
OPEN CREDIT	\$	443,046
CLEAR CREDIT	\$	-
CLEAR CREDIT EST	\$	(22,652,011)
HS BID	\$	(22,335,034)
Mw BID		14,401
COUNT BID		3,578

As the leftmost red box shows, GreenHat’s Excel spreadsheet is set to *minimize* a value: the amount of collateral GreenHat will be required to post if it buys these FTRs (determined by the number in cell K6). Even though the tool is set to *minimize* a value (collateral), GreenHat claims it used the tool to *maximize* a value: to “generate[] the *maximum* expected profit.”²⁴⁵ But what the spreadsheet shows is that GreenHat sought to minimize collateral; the idea that minimizing collateral was really a way to “maximize expected profit” based on PJM “projections” is an after-the-fact invention for which GreenHat provides no evidence.

As discussed in detail below, the factual record is devoid of any evidence that GreenHat sought to maximize profits by purchasing FTRs with the smallest possible collateral or that GreenHat in fact valued FTRs based on Credit Calculator data. On the other hand, there is powerful evidence that GreenHat’s goal was simply to buy whatever FTRs it could acquire with little or no upfront expense. The documents memorializing the owners’ conversations with third parties about GreenHat’s strategy, for example, say nothing about GreenHat using the Credit Calculator to identify *profitable* FTRs; rather, the documents discuss GreenHat buying FTRs in a way designed to minimize collateral, e.g., as a way of “exploit[ing] an arb in the way PJM calculates credit reserve requirements.”²⁴⁶ As discussed above (at pp. 24, 36-38, 62), GreenHat’s owners also knew from their own experience with buying FTRs using the Credit Calculator that it

²⁴⁵ *Id.* (emphasis added). GreenHat has not identified any spreadsheet in which it ever *maximized* any value.

²⁴⁶ MA-0000000062 (Email from M. Arnold to P. Dadone) (Sept. 5, 2017, 6:03 p.m.).

resulted in huge losses, not in “the maximum expected profit.” Finally, the record shows that other FTR traders understood that choosing FTRs without considering fundamentals was antithetical to successful, profit-maximizing trading.²⁴⁷

3. When GreenHat Sold (or Tried to Sell) FTRs to Third Parties, It Never Used Credit Calculator Values, But Instead Relied Solely on the Most Recent Auction Clearing Prices

As discussed above, when GreenHat tried to sell FTRs to third parties, it never tried to portray them as attractive based on Credit Calculator values, which were based on stale data from previous years. Instead, in its efforts to persuade third parties to buy FTRs in its portfolio, GreenHat called potential buyers’ attention to the FTRs’ expected profitability as shown by the most recent prices set in PJM auctions.²⁴⁸ GreenHat’s claim that it valued FTRs based on the Credit Calculator is thus contradicted by its own actions.

4. GreenHat’s Citations to Irrelevant PJM Documents Provide No Support for Its Claim That It Bought FTRs Based on Expected Profitability

As discussed above, GreenHat does not cite any document or sworn statement by its owners (whether from testimony or a declaration) to support its claim that GreenHat’s owners saw PJM’s Credit Calculator as providing “congestion forecasts” that would enable GreenHat to find FTRs that would be profitable in the future. GreenHat instead cites to four irrelevant PJM documents, none of which rebuts Enforcement’s demonstration that GreenHat’s goal was to minimize collateral.

First, GreenHat quotes a PJM “informational filing” from 2008, six years before Kittell, Bartholomew, and Ziegenhorn started trading FTRs through GreenHat, which they claim shows that the Credit Calculator was intended to provide “congestion forecasts” that FTR users could use as investment tools.²⁴⁹ Although GreenHat discusses this filing at length in its Response, there is no evidence that any of the owners ever saw this 2008 filing during the time they traded FTRs (from 2014 to 2018), much less relied on it in their trading strategy. That is, the suggestion that GreenHat relied on this document in formulating its strategy is a *post hoc* invention.

Second, even if GreenHat’s owners had seen it at the time they traded FTRs, the three-page 2008 informational PJM filing would not support GreenHat’s position. PJM

²⁴⁷ See Hotline email (Roscommon_00001) (Email from K. Kelley to Enforcement Hotline) (June 25, 2018) (discussing need to use power flow models to find FTR paths likely to be profitable, and expressing disapproval of collateral-minimization strategy).

²⁴⁸ See p. 22 & n.58 above (quoting emails to potential purchasers).

²⁴⁹ GreenHat Response at 7, citing *PJM Interconnection, L.L.C.*, Docket No. ER08-1016-001, Informational Filing at 2 (Oct. 23, 2008) (“2008 PJM Filing”); Ledgerwood Report, ¶¶ 25, 97, 106.

is not now and has never been in the business of offering advice to market participants about investment strategies, and was not offering investment advice in its 2008 filing or through its FTR credit policies.²⁵⁰ What PJM said in the 2008 filing was specific and highly-qualified: that “*for the current FTR credit construct,*” historical FTR values were the best “readily-available” projection of future value.²⁵¹

Third, the contention that GreenHat believed that the Credit Calculator was a good way to build a profitable portfolio is belied both by GreenHat’s own trading experience and by what its owners said to third parties. GreenHat knew from experience with its 2014 FTR purchases that using the Credit Calculator to choose FTRs did *not* result in a profitable portfolio, but the opposite: GreenHat had to *pay* \$2.3 million to PJM to cover the losses on those purchases. GreenHat also knew (from Kittell and Bartholomew’s own mark-to-auction calculations in 2017) that its FTR purchases between 2015 and 2017 using the Credit Calculator had resulted in a portfolio with a valuation of -\$36 million. When GreenHat’s owners talked with third parties about the firm’s use of the Credit Calculator, the third parties wrote that GreenHat “put the portfolio together to exploit an arb in the way PJM calculates credit reserve requirements” and that “the [GreenHat traders] weren’t looking at fundamentals, just strictly buying based upon credit requirements.”²⁵² And when GreenHat tried to interest third parties in buying its FTRs, it *never* cited Credit Calculator data, but *always* cited mark-to-auction data.

Fourth, GreenHat claims to find support for buying FTRs based solely on minimizing collateral in a PJM filing from December 2017,²⁵³ nearly two and a half years after GreenHat began implementing the scheme described above and after all three of its deals with Shell had been implemented. At that time, Kittell and Bartholomew had each recently calculated that GreenHat’s portfolio was valued at -\$36 million, showing that buying FTRs based on minimizing collateral was resulting in large losses. The idea that

²⁵⁰ Order No. 2000 sets forth four minimum characteristics for an RTO, the first of which is “independence from market participants.” *Regional Transmission Organizations*, Order No. 2000, FERC Stats. & Reg. ¶ 31,089, at 31,046 (1999) (cross-referenced at 89 FERC ¶ 61,285). As the Commission explained, “the principle of independence is the bedrock upon which the ISO must be built.” *Id.* at 31,061.

²⁵¹ 2008 PJM Filing at 2 (emphasis added).

²⁵² MA-0000000062 (Email from M. Arnold to P. Dadone) (Sept. 5, 2017, 6:03 p.m.); Hotline email (Roscommon_00001) (Email from K. Kelley to Enforcement Hotline) (June 25, 2018)

²⁵³ GreenHat Response at 7 (citing *PJM Interconnection, L.L.C.*, Docket No. ER18-425-000, Proposed Modifications to FTR Credit Requirements (filed Dec. 11, 2017) (“December 2017 PJM Filing”)). GreenHat also cites a still later PJM filing to the same effect: *DC Energy, LLC v. PJM Interconnection, L.L.C.*, Docket No. EL18-170-000, Answer of PJM Interconnection, LLC (filed June 25, 2018).

GreenHat’s owners ignored what they knew from their own experience and instead relied (starting in 2018) on the December 2017 PJM filing as a source of investment advice is another *post hoc* invention that cannot be squared with the facts.²⁵⁴

Finally, the Response cites to PJM documents from June 2018 and March 2020,²⁵⁵ which the owners obviously could not have seen when they were trading FTRs. Even if the owners had seen the documents at the time, that would be irrelevant, given (i) GreenHat’s own experience with the money-losing results of buying FTRs using the Credit Calculator, (ii) what the record shows the owners told third parties about why they used the Calculator, and (iii) the owners’ uniform practice of relying on mark-to-auction values, not Credit Calculator data, in trying to sell FTRs in GreenHat’s portfolio. In short, none of the PJM documents cited in GreenHat’s Response supports the idea that, in their FTR trading between June 2015 and May 2018, the owners believed that minimizing collateral was a sound method of building a profitable FTR portfolio.

B. GreenHat Does Not Rebut the Evidence that It Bought Long-Term FTRs Because Doing So Helped It Implement Its Scheme

As discussed above, switching to buying only long-term FTRs in June 2015 was critical to GreenHat’s scheme in two ways: (a) it gave GreenHat ample time to sell winners to third parties and (b) it ensured that it would not (as with the FTRs it bought in 2014) be forced to pay for losses on FTRs that settle quickly. GreenHat does not deny that buying only long-term FTRs had these advantages. It claims, however, that the real motivation for GreenHat’s decision to focus on long-term FTRs was to build a portfolio “that would be profitable in both low and high natural gas price environments.”²⁵⁶ GreenHat cites no basis for that post hoc claim.

C. GreenHat Does Not Rebut the Evidence that It Never Intended to Pay for Losses on Its Portfolio

Section III(3) above summarizes the evidence demonstrating that from the outset of its FTR scheme in June 2015, GreenHat never intended to pay for losses on its portfolio, even though it expressly pledged to PJM that it would “pay all costs and

²⁵⁴ December 2017 PJM Filing at 7.

²⁵⁵ GreenHat Response at 7, citing PJM 2019 Financial Report at 45 (Mar. 18, 2020); *id.* at 8 & n.2, citing PJM email dated June 2, 2018.

²⁵⁶ GreenHat Response at 11. GreenHat also claims that buying only long-term FTRs enabled it to compete with firms that had “better near-term information” about market conditions. *Id.* But GreenHat never used *any* information about market conditions in deciding what FTRs to buy. And GreenHat knew from its own experience that buying FTRs without regard to fundamentals—whether short-term or long-term FTRs—led to massive losses. *See* pp. 24, 36-38, 62 above.

expenses” it incurred in its trading.²⁵⁷ GreenHat offers no meaningful rebuttal to this evidence.

1. GreenHat Did Not Intend to Cover Losses on its Portfolio, and Took Active Steps to Increase the Likelihood of Default

GreenHat’s actions show that it never intended to honor its pledge to pay the “costs and expenses” that would arise upon default. *First*, its strategy for acquiring FTRs was based on minimizing the amount of money that PJM could seize upon default. *Second*, its owners quickly moved funds from third party deals out of GreenHat’s accounts and into their own.

For example, one day after PJM called about a potential collateral call in March 2017, GreenHat’s owners authorized the withdrawal of all of the cash in GreenHat’s account, then moved it into their own personal accounts shortly thereafter. By transferring all of GreenHat’s revenues to themselves, its owners thus ensured that there would be virtually no money available to pay what GreenHat owed on its underwater portfolio. Confirming the intent shown by their actions, and as explained above, hours after meeting with Ziegenhorn and Bartholomew, Matt Arnold wrote that he understood that the owners’ plan was to “just shut down the LLC and walk away” if the portfolio ever goes OTM [out of the money, i.e., underwater] to an extent that exceeds the credit reserve.”²⁵⁸ While Arnold mentioned the theoretical possibility that extraordinary circumstances (such as an “extreme weather event”) might make the portfolio profitable,²⁵⁹ he did not mention anything about GreenHat expecting its portfolio to be profitable in the normal course.

The next section discusses the impact of GreenHat’s bilateral deals on its default.

2. GreenHat’s Third Party Sales Increased the Size of its Ultimate Default

GreenHat asserts that “*PJM members . . . are better off* because GreenHat sold . . . FTRs bilaterally. Those sales *reduced* the size of the default.”²⁶⁰ The Response cites no support for this illogical and incorrect claim. In fact, simple arithmetic dictates that

²⁵⁷ In its Application for Membership Between PJM Interconnection, LLC and GreenHat Energy, LLC, GreenHat “agree[d] to pay all costs and expenses in accordance with the Operating Agreement and all other applicable costs under the [PJM Tariff].” PJM_052970 (Sept. 16, 2014).

²⁵⁸ MA-0000000062 (Email from M. Arnold to P. Dadone) (Sept. 5, 2017, 6:03 p.m.).

²⁵⁹ *Id.*

²⁶⁰ GreenHat Response at 11 (emphasis in original).

removing profitable assets from a portfolio necessarily reduces the aggregate value of the portfolio.²⁶¹

GreenHat made four deals of that type: three with Shell and one with BETM, in which it cumulatively extracted a total of \$13.1 million for its owners. And while GreenHat actually succeeded in obtaining cash for profitable FTRs (and reducing the value of its portfolio) in those four deals, it attempted to do many more, as its frequent sales efforts to potential counterparties show.²⁶²

As to the deals that GreenHat did make (with Shell and BETM), it is possible to estimate how much GreenHat increased the size of its default through those deals. The FTRs that GreenHat sold to Shell and BETM fall into two categories:

- (a) **FTRs repurchased by GreenHat in PJM auction:** FTRs that GreenHat sold to Shell and then bought back in the PJM auction (at higher prices), and
- (b) **FTRs not repurchased by GreenHat:** FTRs that GreenHat sold to Shell or BETM and did not buy back either in a PJM auction or because Shell returned them to GreenHat.

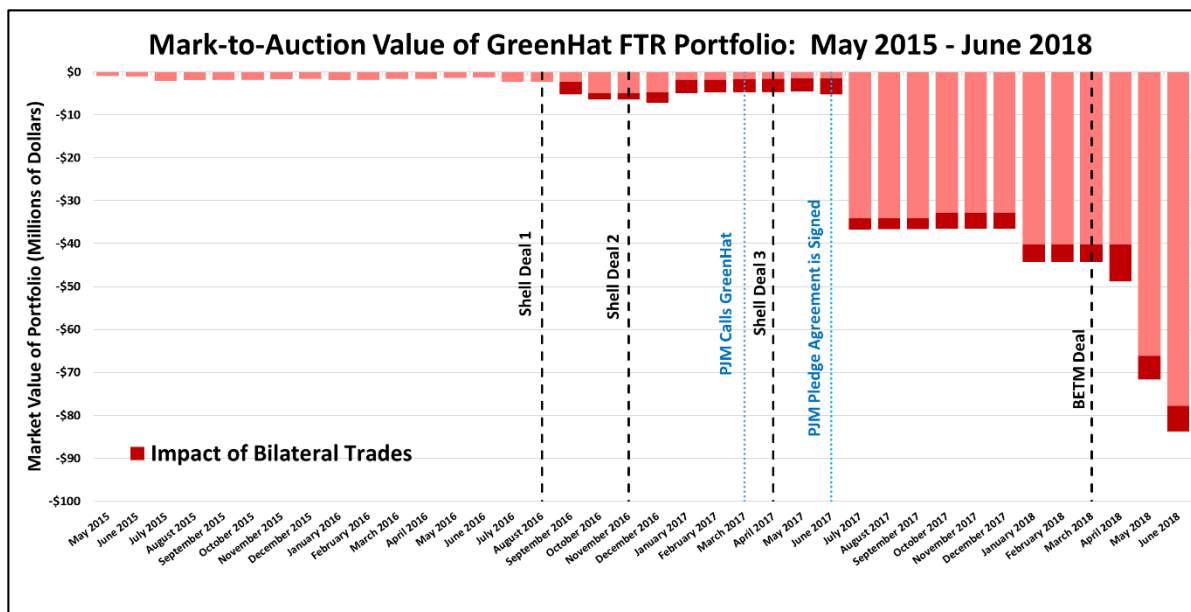
Determining the impact of the first category of FTRs on the size of GreenHat's default is simple. GreenHat owned the same FTRs both before and after the deal, but owned them with a higher cost basis after buying them back from Shell. If a firm buys something for \$X, sells it, and then buys it back for \$X + \$Y, the proceeds when it later sells the asset will be reduced by exactly \$Y (the increase in cost basis). As shown in Figure 8 on page 60 above, GreenHat's cost basis in the FTRs it sold to Shell and then repurchased in the PJM auction increased by \$3,967,343. GreenHat's sale and repurchase of those FTRs therefore drove up the size of its ultimate default by that amount.

²⁶¹ GreenHat also claims that its default has "net profited" PJM members. GreenHat Response at 3. Again, it provides no support for the radical notion that massive defaults do no harm because PJM is a pass-through entity. And there is no dispute that PJM has invoiced PJM members for more than \$179 million for the FTRs on which GreenHat defaulted.

²⁶² See, e.g., p. 22 & n.58 above.

For the second category—those that GreenHat did not buy back—it is possible to make a reasonable estimate of the impact on the size of the firm’s default by looking at the market value of those FTRs in May 2018, just before GreenHat defaulted on its portfolio. The dark red bars in Figure 10 show the impact of GreenHat’s sale of this second set of FTRs on the value of its portfolio.

Figure 10



Because the FTRs it sold to Shell and BETM were overall in the money, the removal of those FTRs from its portfolio (starting in September 2016) reduced the total value of the portfolio by the amounts shown in the dark red bars. By the time GreenHat defaulted in June 2018, the removal of those FTRs from its portfolio drove down the total market value of its FTRs by \$11,022,776.²⁶³

These two amounts (\$3,967,343 and \$11,022,776) add up to \$14,990,119. There may, however, be some overlap in these two calculations, because GreenHat transferred a number of profitable FTRs to Shell (the losses of which are accounted for in the \$11,022,776 mark-to-auction number) that they also rebought at a higher cost basis (accounted for in the \$3,967,343 increased-cost-basis number). GreenHat’s sale of in-the-money FTRs to third parties to raise cash for Kittell, Bartholomew, and Ziegenhorn therefore increased the size of its ultimate default by at least \$11 million and potentially as much as \$14.9 million. Had GreenHat been successful in its efforts to do similar deals with other third parties (such as JP Morgan, Bank of America Merrill Lynch, the Royal

²⁶³ PJM_Data_Extract_00001_GreenHat Activity in PJM Auctions;
PJM_Data_Extract_00002_GreenHat Bilateral Transactions.

Bank of Canada, BP, and Citigroup) or additional deals with Shell (as it sought to do), both the owners' profits and the losses that GreenHat imposed on the rest of PJM would have been still higher.

D. GreenHat's Conduct Bears No Relationship to the Conduct that Enforcement Determined to Be Non-Manipulative in the Power Edge Default

GreenHat briefly suggests that its behavior should be excused based on a 2009 Commission order declining to find that a firm called Power Edge had engaged in market manipulation in PJM's FTR market, even though Power Edge defaulted on its FTR portfolio.²⁶⁴ GreenHat is mistaken.

First, Power Edge did not purchase FTRs with the goal of minimizing collateral. To the contrary, it chose what FTRs to purchase based on fundamentals: a reasonable expectation of positive congestion changes, based on an analysis of expected congestion changes at different times of year.²⁶⁵ Its portfolio proved unprofitable only because of unexpected transmission outages.²⁶⁶ *Second*, unlike GreenHat, Power Edge did not continue to use a purchasing strategy that it knew, from experience, generated an overall losing portfolio. *Third*, far from extracting cash from its portfolio to pay its owners, Power Edge "repeatedly received cash infusions from its ownership to keep it solvent and viable," even though the portfolio was performing poorly.²⁶⁷

Fourth, Power Edge sought to avoid a default and to minimize the size of any default: its trader "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."²⁶⁸ *Fifth*, Power Edge sought to minimize its default by "entreating PJM for help in accelerating transmission outages" that were adversely impacting Power Edge's FTR position.²⁶⁹ *Finally*, "rather than having its store of capital depleted, Power Edge repeatedly received significant cash infusions, despite the poor performance of its portfolio."²⁷⁰

²⁶⁴ GreenHat Response at 10 (citing *PJM Interconnection, L.L.C. v. Accord Energy, LLC*, 127 FERC ¶ 61,007, Enforcement Staff Report at 43 (2009)).

²⁶⁵ *PJM Interconnection, L.L.C. v. Accord Energy, LLC*, 127 FERC ¶ 61,007, Enforcement Staff Report, Executive Summary (2009).

²⁶⁶ *Id.*

²⁶⁷ *Id.*

²⁶⁸ *Id.*

²⁶⁹ *Id.* § 2(a).

²⁷⁰ *Id.*

In short, in contrast to GreenHat, Power Edge made an FTR investment based on market fundamentals that unexpectedly went south, and then made many good faith efforts to try to avoid default and reduce the size of any default.

E. Contrary to GreenHat's Claim, Its Conduct When PJM Changed the Credit Calculator in 2018 to Add PROMOD Data Confirms That GreenHat Selected FTRs Solely Based on Minimizing Collateral

GreenHat claims that its behavior when PJM changed its Credit Calculator in 2018 shows that it acted lawfully.²⁷¹ In fact, it shows the opposite.

In December 2017, PJM announced it would modify its FTR credit requirements to take into account data from its PROMOD model.²⁷² In April 2018, PJM modified its Credit Calculator to implement this change.²⁷³ On April 10, 2018, PJM told GreenHat that with the new collateral requirements, GreenHat had a credit shortfall of more than \$59 million, and risked being declared in default.²⁷⁴

In response, GreenHat (then owned solely by Kittell) immediately launched a massive FTR buying campaign over the next three weeks to try to postpone its default.²⁷⁵ In doing so, it continued its unbroken practice up to then: using the Credit Calculator to choose FTRs that would minimize its collateral obligations.²⁷⁶ The only difference was that GreenHat now needed to do so with a modified version of the Calculator.

Specifically, in a last-minute effort to postpone its default, and with no Long Term Auction scheduled until June, GreenHat bought enormous volumes of FTRs (more than 265 million MWh) in Annual Auctions between April 10, 2018—the same day it received PJM's email warning of default—and May 1, 2018.²⁷⁷ As discussed, GreenHat does not dispute that it bought these FTRs using the same technique it had used for years—selecting FTRs to minimize its collateral obligations.²⁷⁸ Instead of denying that it did so,

²⁷¹ GreenHat Response at 7; Ledgerwood Report, ¶¶ 31-36.

²⁷² December 2017 PJM Filing at 7.

²⁷³ Ledgerwood Report, ¶ 36 (PJM released new Credit Calculator on April 6, 2018).

²⁷⁴ GH_0006324 (email from J. Niemeyer to GreenHat) (April 10, 2018).

²⁷⁵ PJM_Data_Extract_00001_GreenHat Activity in PJM Auctions; *see* chart on p. 26 above.

²⁷⁶ Ledgerwood Report, ¶¶ 34, 90-91.

²⁷⁷ PJM_Data_Extract_00001_GreenHat Activity in PJM Auctions.

²⁷⁸ Ledgerwood Report, ¶¶ 34, 90-91. Confirming GreenHat's concession, during the weeks when Kittell was buying huge volumes of Annual FTRs to avoid immediate default, Bartholomew sent him a spreadsheet that—per GreenHat's settled practice—

GreenHat again claims, with no support, that GreenHat’s *real* goal was supposedly to acquire profitable FTRs.²⁷⁹ For the reasons discussed above, this claim is an after-the-fact fabrication, which is contradicted by GreenHat’s own repeated admissions to third parties and by its own actions.²⁸⁰

F. GreenHat’s Claim that It Needed to Sell FTRs to Third Parties to “Lock in Profits” is Incorrect

GreenHat asserts that when it sold FTRs to Shell and BETM—and sought to sell them to many other firms—it was simply seeking to “sell[] some FTRs before settlement in order to lock in profits.”²⁸¹ But if GreenHat wanted to lock in gains on FTRs settling in future years, it could have sold them into earlier PJM auctions and “locked in” all of the gains for itself.²⁸² Instead, GreenHat sold FTRs at a discount to third parties—voluntarily giving up a substantial portion of the gains—to obtain immediate cash for its owners. It did so because, as one of its potential customers explained, third party sales were the only way for GreenHat to obtain cash from its portfolio before settlement.²⁸³ Rather than being evidence of a legitimate trading strategy, selling unlawfully-acquired assets quickly at a discount to obtain immediate cash is a hallmark of a fraudulent scheme.

G. GreenHat’s Response Does Not Rebut the Evidence That Its Claim (First Made in 2017) That Shell Owed It \$62 Million Was Fraudulent

GreenHat claims that it actually believed what it told PJM in April 2017: that after paying the Final Purchase Price in full from their first two deals, Shell was required

selected FTRs for purchase using the Solver function to minimize collateral. *See* GH_0010152 (email from J. Bartholomew to A. Kittell) (Apr. 23, 2018); GH_0010153 (attached spreadsheet).

²⁷⁹ Ledgerwood Report, ¶¶ 34, 90-91.

²⁸⁰ GreenHat notes that on June 2, 2018, a PJM analyst calculated that GreenHat’s portfolio had a positive value using the PROMOD model. GreenHat Response at 8 & n.12 (quoting PJM email). Given that GreenHat had just purchased a huge volume of FTRs with the sole criterion of improving its collateral position, and with no regard to fundamentals, that fact proves only that GreenHat was skilled in using the Credit Calculator to minimize its collateral obligations.

²⁸¹ GreenHat Response at 11.

²⁸² Selling a profitable FTR into a PJM auction before settlement locks in profits because the congestion payments from the buy offset the congestion payments from the sell and all that is left for settlement is the difference between the two auction prices.

²⁸³ *See* p. 33 n.86 above.

to pay an additional purchase price of \$62 million.²⁸⁴ Nothing in GreenHat’s Response rebuts the record evidence that GreenHat made that claim in bad faith.²⁸⁵

The way in which GreenHat describes its position about the supposed \$62 million Shell debt in its Response illustrates the illogic of that claim: even though there is no dispute that Shell paid the Final Purchase Price for the FTRs that Shell bought, GreenHat claims that the “purchase prices” for the FTRs were “not addressed” in those Agreements.²⁸⁶ GreenHat does not, and could not, explain why or how Shell agreed to pay two “purchase prices” for the same FTRs.

1. GreenHat Makes No Attempt to Rebut the Contemporaneous Evidence Demonstrating that It Knew that Shell Was Required to Pay GreenHat Once, Not Twice

GreenHat has no response to contemporaneous evidence that contradicts its position: documents showing that before it made the “\$62 million Shell debt” claim for the first time in April 2017, GreenHat repeatedly told third parties that the Shell deals were for one-time payments. *First*, GreenHat told potential customers at JP Morgan, Bank of America Merrill Lynch, the Royal Bank of Canada, BP, and Citigroup that the first two Shell deals were asset sales for a one-time payment.²⁸⁷ *Second*, GreenHat told its own auditors the same thing.²⁸⁸ GreenHat does not dispute any of these facts. Nor

²⁸⁴ GreenHat Response at 14-19; Ledgerwood Report, ¶¶ 75-83.

²⁸⁵ GreenHat does not dispute that it first raised the \$62 million claim weeks after PJM threatened to make a collateral call, and only after it failed to persuade PJM to accept other proposed solutions. *See* GreenHat Response at 18. It attempts to explain away that delay by claiming that the initial discussions between GreenHat and PJM “were focused on clarifying the basis for PJM’s collateral call and ensuring that PJM understood the scope of GreenHat’s then-existing FTR portfolio.” *Id.* That statement is untrue: from the very start of its discussions with PJM about a collateral call, GreenHat sought to offer *solutions* that would make the credit problem go away. *E.g.*, GH_0005471 (Email from A. Kittell to S. Daugherty) (Mar. 20, 2017) (“Green Hat is able to give you the full details of our February 27, 2017 FTR portfolio sale to Shell Energy North America today. *I am confident that this sale will address all your concerns.*”) (emphasis added); GH_0005472 (Letter from A. Kittell to S. Daugherty) (Mar. 20, 2017) (“Green Hat is confident that the sale of the portfolio [to Shell in the third deal], which is comprised entirely of ‘Flows,’ *fully addresses PJM’s credit concerns.*”) (emphasis added).

²⁸⁶ GreenHat Response at 17.

²⁸⁷ *See* pp. 48-49 above.

²⁸⁸ *See* pp. 47-48 above.

does GreenHat cite any document, either during or after its negotiations with Shell, in which Shell stated that it agreed to make additional payments to GreenHat to purchase the FTRs after paying the agreed Final Purchase Price.²⁸⁹

2. GreenHat's Claim that It Told Its Auditors that the \$62 Million Was in Its Balance Sheet is Disproven By Its Own Financial Statements

GreenHat asserts in its Response that the supposed \$62 million debt “could be found in GreenHat’s books” before PJM’s collateral call.²⁹⁰ Although GreenHat offers no explanation for this claim in its Response, at a meeting with Enforcement staff in December 2018, GreenHat’s attorneys argued that GreenHat did disclose the alleged \$62 million “debt” to its auditors, even though it was not shown as a receivable on GreenHat’s balance sheet, because the \$62 million was supposedly included in the stated value of GreenHat’s FTR portfolio on the balance sheet. GreenHat appears to be referring to the entry called “Derivative Asset – Long Term” on GreenHat’s balance sheet in its financial statements as of March 27, 2017, which showed a value of \$101,995,139 (i.e., approximately \$102 million).²⁹¹

GreenHat offers no explanation of how it derived this number, and its Response cites no evidence that anyone at GreenHat—much less its auditors—had the idea before the fall of 2018 that the \$102 million figure included any of the supposed \$62 million debt from Shell.²⁹² That GreenHat’s owners did *not* believe that is shown by the fact that when GreenHat’s auditors were preparing these financial statements, GreenHat was telling them that the Shell deals were for one-time payments of a few million dollars.²⁹³ That GreenHat’s owners did not believe this is also shown by the fact that in discussing the Shell deals with third parties, GreenHat likewise described them as for one-time

²⁸⁹ GreenHat refers to internal Shell materials, which it obtained in litigation long after the deals were completed. GreenHat Response at 16. Those materials do not include any document in which Shell states that it will be required to pay the Final Purchase Price and then to pay again to purchase the same FTRs. And nothing in those documents could change the plain language of the Shell Agreements (most notably the phrase “Final Purchase Price”) or GreenHat’s unequivocal contemporaneous descriptions of the deals—to its auditors and to potential counterparties—as asset sales for one-time payments.

²⁹⁰ GreenHat Response at 4.

²⁹¹ See GH_0008761 (GreenHat Energy, LLC - Financial Statements and Independent Auditor’s Report – December 31, 2016, and 2015) (March 29, 2017), at GH_0008763.

²⁹² While GreenHat says nothing about where the \$102 million came from, it claims it always used the Credit Calculator for valuations. GreenHat Response at 7.

²⁹³ See pp. 47-48 above.

payments (at a discount rate that GreenHat characterized as unfavorable to it).²⁹⁴ And although GreenHat told Enforcement staff in December 2018 that the \$62 million is within the “Derivative Asset – Long Term” line on its balance sheet, it has no explanation for why its 2017 financial statements show that amount at \$35 million, far below the \$62 million that GreenHat contends is reflected there.²⁹⁵

That GreenHat did not tell its auditors that is proven by its own financial statements. *First*, although an agreement to pay \$62 million (on top of the agreed Final Purchase Price) from an asset sale would have been extraordinarily material to GreenHat’s financial position, there is no mention in its March 2017 financial statements (for calendar year 2016) of *any* future payments from Shell, much less \$62 million in future payments. *Second*, what GreenHat did (accurately) tell its auditors is that the two deals with Shell in 2016 were “completed” asset sales for one-time payments totaling \$6.7 million (\$1.5 million for the first deal and \$5.2 million for the second):

During 2016, the Company engaged in two bilateral transactions with another company to sell a portion of their FTR positions. **The sales price was calculated as the summation of the FTR net volumes multiplied by an agreed-upon discount factor. The Company completed FTR sales of approximately \$6.7 million** during 2016. Proceeds of \$5.2 million [from the second deal] was accrued as of December 31, 2016 and received in 2017.²⁹⁶

The record therefore contains no support for GreenHat’s contention that its financial statements reflect any understanding by either GreenHat or its auditors that Shell owed GreenHat any additional money, much less \$62 million. To the contrary, GreenHat’s financial statements contradict its claims.

3. **The PJM “Specification” and “Guide” Cited by GreenHat Do Not Support Its Case**

As GreenHat’s owners knew from years of business experience, contracts require mutual assent; that is, both parties need to agree they are entering into the contract. GreenHat has not identified any document, or described any conversation, in which Shell agreed to pay any amount beyond the Final Purchase Price.

²⁹⁴ See pp. 48-49 above.

²⁹⁵ GH_0010181 (GreenHat Energy, LLC – Financial Statements and Independent Auditor’s Report – December 31, 2017 and 2016) (Apr. 24, 2018).

²⁹⁶ GH_0008761, at GH_0008769 (emphasis added).

GreenHat contends that two PJM documents support its claim that Shell agreed to make payments based on entries in the FTR Center.²⁹⁷ Although in that email GreenHat described these documents as “manuals,” they are not.²⁹⁸ And even if they were, they would have no significance to GreenHat’s deals with Shell.²⁹⁹

During the period of the first two Shell deals, PJM did publish a Manual about FTR trading.³⁰⁰ But the brief discussion of bilateral (secondary market) trading in PJM’s FTR Manual does not say anything about the “Price” column and provides no support for GreenHat’s claim about the alleged significance of that column. Nor do the handful of PJM Tariff provisions about bilateral trades.³⁰¹

The two (non-Manual) documents that Kittell cited in his April 17 email to PJM are a “specification” and a “guide” that mention entry of a \$/MW figure into the Price field in the FTR Center. GreenHat claims that these documents support its claim that the parties’ use of the FTR Center imposes contractual obligations on Shell to pay GreenHat based on the numbers in the Price field, even though the parties entered into a written contract providing for payment of a separately-defined “Final Purchase Price” and agreed (in all caps) that Shell owed nothing more. But as demonstrated above (at p. 47), GreenHat knew that is not how the FTR Center functions; the parties’ contemporaneous communications about the Price column show that GreenHat knew, and told Shell, that it was merely a placeholder that had to be filled in to submit a trade.³⁰²

As to the “specification” and “guide,” GreenHat does not cite to any evidence that Shell and GreenHat ever discussed either document’s mention of the Price column, much less discussed Shell being obligated to make additional purchase payments after paying

²⁹⁷ GreenHat Response at 15 (citing GreenHat Energy, LLC’s Protest and Request for Expedition, *Shell Energy North America (US), L.P.*, Docket No. EL20-49-000 (filed July 14, 2020)) (GreenHat Protest)).

²⁹⁸ PJM FTR External Interface User Specification Rev. 16 (2014); FTR Center Users Guide (2016). GreenHat incorrectly described these as “manuals” in its April 17, 2017 email to PJM. GH_0005368 (Email from GreenHat (Kittell) to M. Harhai) (Apr. 17, 2017).

²⁹⁹ As discussed above, in a separate proceeding, the Commission has determined that “entry of data into the FTR Center for bilateral trades does not automatically establish stand-alone bilateral contracts at the stated price, absent a separate agreement by the parties to do so.” *Shell Energy North America (US), L.P.*, 173 FERC ¶ 61,153 at P 1, *reh’g denied*, 175 FERC ¶ 61,025.

³⁰⁰ PJM Manual 6 § 7 (“FTR Secondary Market”) (Rev. 17, June 1, 2016).

³⁰¹ PJM Tariff, Attachment K-Appendix, § 5.2.2(d), <https://www.pjm.com/directory/etariff/FercDockets/1/20100917-er10-2710-000.pdf>.

³⁰² See p. 47 above (quoting Kittell emails).

the Final Purchase Price. The documents thus provide no support for the contention that Shell agreed to pay twice to purchase the same FTRs.³⁰³

4. GreenHat's Claim (First Made in November 2018) that the Final Purchase Price Was an "Option" Payment Does Not Make Sense

Although it did not make this claim until late 2018, GreenHat asserts in its Response that the Final *Purchase Price* in the three Shell agreements was merely a “fee” for an “option” to purchase the FTRs.³⁰⁴ This assertion is not supported by any of the documents produced by GreenHat and is contradicted by the language of its agreements with Shell. GreenHat offers no explanation, for example, for why anyone would refer to an option payment as a “Final Purchase Price” payment. Nor does it explain why the GreenHat-Shell agreements, each of which is captioned “Financial Transmission Rights Purchase and Sale,” do not *say* that Shell is purchasing an option or include any of the terminology normally found in option agreements.³⁰⁵

GreenHat first made this “option” claim in 2018 in a lawsuit against Shell in state court in Texas, apparently recognizing that it is illogical for a buyer to pay the “purchase” price for an asset twice.³⁰⁶ GreenHat argues that the more than \$11 million in Final

³⁰³ The “External Interface Specification” (which Kittell quoted in his April 17, 2017 email) is not part of PJM’s tariff or of a PJM Manual, and is not incorporated by reference into the PJM tariff. It was written not by PJM but by a contractor named ALSTOM Grid, and was intended for IT professionals, not for market participants: “The reader of this document is assumed to be a software engineer whose intent is to understand the requirements of the participant’s interface to the FTR system and to implement the software necessary to exchange data.” PJM FTR External Interface User Specification, Rev. 16, at 1 (2014). Similarly, the “PJM Center Users Guide” is not part of PJM’s Tariff or of a PJM Manual, nor was it incorporated by reference into PJM’s Tariff. Neither document could therefore create binding legal obligations.

³⁰⁴ *E.g.*, GreenHat Response at 13.

³⁰⁵ *See* Edison Electric Institute, Master Power Purchase & Sale Agreement, at 6-11, <https://www.eei.org/resourcesandmedia/Master%20Contract/contract0004.pdf> (last accessed March 16, 2021) (defining “Call Option,” “Strike Price,” and “Payment for Options”); *id.* at 39 (Confirmation Letter includes the following sections to be filled out: “Option Buyer,” “Option Seller,” “Type of Option,” “Strike Price,” “Premium,” and “Exercise Period”).

³⁰⁶ GreenHat Energy, L.L.C.’s Original Answer, Counterclaims, Third-Party Claims, and Request for Disclosures, ¶¶ 19-20 & n.5, 25-26, No. 2018-69829 (Harris Cty. Tex. Dist. Ct., 190th Judicial District) (filed Nov. 5, 2018); *see also* GreenHat Energy, L.L.C.’s First Amended Petition, ¶¶ 18-19 & n.5, 24-25, No. 2018-69829-A (Harris Cty. Tex.

Purchase Price payments were not payments to purchase the FTRs but merely a premium for the right to pay the “purchase price” for the FTRs at a later time.³⁰⁷

The language of GreenHat’s agreements with Shell rules out that reading. The Agreements do not say anything about an option to purchase the FTRs later. Instead, they say the opposite. The letter agreements bear the caption “Financial Transmission Rights *Purchase and Sale*.”³⁰⁸ The first sentence says that “GreenHat . . . is interested in *selling*” and Shell “is interested in *purchasing*” the FTR Portfolio identified in Attachment 1.³⁰⁹ The language setting forth the steps of the transaction (in Paragraph 2) are entirely about Shell’s *purchase* of the FTRs:

- Paragraph 2 is captioned “*Purchase and Sale*.”
- Paragraph 2(a) states that as the first step in consummating the deal, GreenHat will take all steps required “to ensure that *all right, title, and interest to the FTRs*” reside with Shell.
- Paragraph 2(b) provides for calculation of the “Initial *Purchase Price*.”
- Paragraph 2(d) provides for calculation of the “Final *Purchase Price*.”³¹⁰

The remaining clauses of the agreements likewise discuss GreenHat’s sale, and Shell’s purchase, of the FTRs:

- Paragraph 3(c) contains a representation that “the *purchase and sale* effectuated by this Agreement will not render [either GreenHat or Shell] insolvent”
- Paragraph 3(d) twice refers to a “purchase and sale” of FTRs and separately refers to Shell “purchasing” FTRs:

Dist. Ct., 190th Judicial District) (filed Jan. 8, 2019). GreenHat has since repeated that claim in a declaratory judgment proceeding filed with the Commission by Shell. *See* GreenHat Protest at 32, 50 & n.131, 52, 56, 57, 58 (alleging that Shell agreed to pay GreenHat both the Final Purchase Price (which GreenHat calls an “option fee”) and also a purchase price based on entries in the FTR Center.

³⁰⁷ *E.g.*, GreenHat Energy, L.L.C.’s First Amended Petition, ¶¶ 18-19 & n.5, 24-25, No. 2018-69829-A (Harris Cty. Tex. Dist. Ct., 190th Judicial District) (filed Jan. 8, 2019).

³⁰⁸ GH_0004546 (First Shell Agreement); GH_0000049 (Second Shell Agreement); GH_0002536 (Third Shell Agreement).

³⁰⁹ First Shell Agreement at 1; Second Shell Agreement at 1; Third Shell Agreement at 1 (emphasis added in all cases).

³¹⁰ First Shell Agreement, ¶ 2; Second Shell Agreement, ¶ 2; Third Shell Agreement, ¶ 2 (emphasis added in all cases).

- “In the event any part of the *purchase and sale* effectuate[d] by this Agreement”
- “the *purchase and sale* effectuated by this Agreement is intended to physically occur” in certain ways
- discussing “Shell Energy *purchasing* a reduced number of FTRs other than the amount originally offered by GreenHat”
- The second sentence of Paragraph 4 provides: “THE PARTIES CONFIRM THAT **SHELL ENERGY’S LIABILITY UNDER THIS AGREEMENT IS LIMITED TO THE FINAL PURCHASE PRICE AND ALL OTHER REMEDIES AND DAMAGES AT LAW OR IN EQUITY ARE WAIVED.**” (Emphasis added).
- Paragraph 5 states that the agreement “may be amended, supplemented, or otherwise modified only by an instrument in writing signed by each of GreenHat and Shell Energy.”³¹¹

The agreements describe the deals as Shell’s “purchase” of FTRs nine times, a purchase that was completed by payment of the Final Purchase Price. Nowhere in the agreements are the deals described as Shell’s acquisition of *options* to pay a second time to purchase FTRs in the future. As the plain language of the contracts makes clear, Shell purchased FTRs when it paid the Final Purchase Price for these deals and did not merely pay for an option to purchase FTRs later (and to pay a second time, at a price many times higher than the purchase price).³¹²

5. **GreenHat Has No Meaningful Response to the Evidence Showing that It Sought to Mislead PJM About Shell Owing it \$62 Million**

As documented above (at pp. 44-46), GreenHat told PJM on April 13 and April 17, 2017, that Shell owed it \$62 million from the firms’ first two deals.³¹³ To help ensure

³¹¹ First Shell Agreement, ¶¶ 3, 4, 5; Second Shell Agreement, ¶¶ 3, 4, 5; Third Shell Agreement, ¶¶ 3, 4, 5 (emphasis added in all cases).

³¹² Unable to explain why the term “Final Purchase Price” means something other than final purchase price, GreenHat simply avoids any mention of that term (a) in its 19-page Response, (b) in a separate 76-page presentation (Attachment 1 to GreenHat Response), and (c) in its 74-page filings in the *Shell* proceeding (Attachments 2 and 3). While GreenHat’s expert briefly quotes Shell filings using that phrase, he offers no explanation for why “Final Purchase Price” does not mean what it says. Ledgerwood Report ¶¶ 47, 48.

³¹³ GH_0006632 (Email from GreenHat (Kittell) to M. Harhai) (Apr. 13, 2017); GH_0005368 (Email from GreenHat (Kittell) to M. Harhai) (Apr. 17, 2017).

that PJM would accept its assurances, GreenHat carefully avoided disclosing to PJM that *Shell had already paid the Final Purchase Price* for those deals. Instead of revealing that critical fact, GreenHat sought to mislead PJM about it: when PJM expressly asked whether Shell had already paid money to GreenHat for those two deals,³¹⁴ GreenHat responded not by answering the question, but by directing PJM to a document about *future* payments by Shell for the first two deals.³¹⁵ In other words, GreenHat sought to create the false impression that Shell had made no payments up to that point and that all of Shell's payments would come due in the future.³¹⁶

Although these facts are set forth in the PF Letter, GreenHat simply ignores them in its Response. Instead, GreenHat claims to find support in a statement in Enforcement staff's PF Letter about an interview with Shell employee Ryan Kolkmann. Kolkmann said that he participated in a conversation with PJM personnel on March 29, 2017, when Shell and GreenHat had signed a third bilateral agreement but had not yet implemented it.³¹⁷ In the preceding days, GreenHat had contacted Shell to alert it to the PJM collateral call and to ask about the possibility of speeding up the third deal in return for a larger discount rate.³¹⁸ As of the March 29 phone call, GreenHat had never told PJM that Shell owed it additional money on the first two deals; it did not make that claim until several days later.

Kolkmann recalled that in the March 29 phone call with PJM, he had explained the then-pending third deal with GreenHat and also the first two deals, which he said were completed and paid for. GreenHat contends that this means that "PJM knew those fees [the Final Purchase Price] had been paid."³¹⁹

As the record shows, GreenHat is wrong. As of March 29, the *third* deal—signed but not yet implemented—was a potential source of additional funds that PJM might be able to rely on to address its credit concerns. The first two deals were not, because GreenHat had never said anything to PJM at that point about Shell owing additional money on those deals. Assuming that Kolkmann said on the call that the first two deals

³¹⁴ GH_0005597 (Email from S. Daugherty to GreenHat (Kittell)) (Apr. 19, 2017).

³¹⁵ GH_0005475 (Email from GreenHat (Kittell) to S. Daugherty) (Apr. 20, 2017).

³¹⁶ If GreenHat actually believed in April 2017 that it was entitled to collect both the Final Purchase Price of the first two Shell deals and also to collect an additional \$62 million, it would have had no reason to conceal from PJM the fact that it had already been paid the Final Purchase Price—as it did in responding to PJM's repeated inquiries on that topic.

³¹⁷ PF Letter at 43 n.149.

³¹⁸ GH_0010994 (Email from A. Kittell to R. Kolkmann) (Mar. 23, 2017); GH_0009619 (Email from A. Kittell to S. Kota) (Mar. 20, 2017).

³¹⁹ GreenHat Response at 5.

were completed and paid for, that statement clearly did not register with PJM, as shown by its behavior: when GreenHat wrote to PJM on April 13 claiming that Shell owed it additional money on the first two deals, PJM repeatedly *asked* GreenHat whether Shell had already paid GreenHat anything on those deals.³²⁰ If PJM already knew those facts

³²⁰ GH_0005597 (Email from S. Daugherty to GreenHat (Kittell)) (Apr. 19, 2017) (explaining that PJM had asked on April 13 phone call for information about past Shell payments, and repeating that request). PJM's April 19 email read in relevant part:

Andrew, Thank you for providing the documents you sent to Michelle Harhai on April 17, 2017. Unfortunately, those documents do not address the questions that I posed to you on our call last Thursday, April 13, 2017, or the questions posed in a follow up email request from Michelle Harhai sent to you on April 14, 2017.

Specifically, PJM is requesting that GreenHat provide the following information by close of business on Thursday, April 20, 2017 so that PJM can have a clear and complete understanding of the cashflows under GreenHat's last two contracts with Shell.

1. Contract #1 (August 19, 2016)
 - a. Date(s) of payments from Shell Energy to GreenHat under this Contract. For each date a payment has occurred or will occur what was/is the applicable amount. (** see example below)
 - b. Date(s) of payments from GreenHat to Shell Energy under this Contract. For each date a payment has occurred or will occur what was/is the applicable amount. (** see example below)
 - c. Correspondence/documentation from Shell Energy to validate/verify the applicable amount(s) and date(s).
2. Contract #2 (November 13, 2016)
 - a. Date(s) of payments from Shell Energy to GreenHat under this Contract. For each date a payment has occurred or will occur what was/is the applicable amount. (** see example below)
 - b. Date(s) of payments from GreenHat to Shell Energy under this Contract. For each date a payment has occurred or will occur what was/is the applicable amount. (** see example below)
 - c. Correspondence/documen[t]ation from Shell Energy to validate/verify amount(s) and date(s).

[The email then provided a table in which GreenHat could fill in the requested information.]

from a call with Shell two weeks earlier, it would not have needed to ask GreenHat on April 13, and again on April 19 whether it had been already been paid for the first two deals. And if GreenHat had not been seeking to mislead PJM about whether it had already been paid, it would have answered those questions instead of giving a misleading response about supposed future payments.

In any event, whether Kolkmann told PJM that Shell had already paid GreenHat for the first two deals, and whether or not PJM heard and understood that point, has no bearing on GreenHat's liability under the Commission's Anti-Manipulation Rule. As a matter of law, evidence that goes to the issue of PJM's reliance on GreenHat's statements about the alleged Shell debt is not material, because reliance is not an element in a FERC (or similar SEC) enforcement proceeding, as opposed to a private lawsuit.³²¹

Although there is no way to read its April 20 email to PJM (GH_0005475) as reflecting anything other than deceptive intent, GreenHat focuses on language in the Pledge Agreement in which it disclaimed representations and warranties about the \$62 million.³²² As discussed above (at pp. 52-53), what that language actually shows is that, having made false statements to PJM about the existence of the \$62 million debt, GreenHat refused to agree to the Pledge Agreement unless it was written in a way that would protect GreenHat's owners, who knew there was no such debt, from contractual liability. That is, GreenHat never "took back" or corrected its false statements to PJM; it simply refused to stand behind them in the Pledge Agreement, because doing so might subject the owners to liability when the statements were later shown to be false.

**6. GreenHat Does Not Dispute that its
"\$62 Million" Claim is Based on Multiplying
Price Times Quantity—Times Quantity Again**

As discussed above, in claiming that Shell owed it an additional \$62 million, GreenHat multiplied the original auction cost (Price * Quantity) by Quantity again.

³²¹ See *Prohibition of Energy Market Manipulation*, Order No. 670, 114 FERC ¶ 61,047, at P 48 n.102 (2006) (Order No. 670) ("reliance, loss causation and damages are not necessary for a violation of [FERC's] Final Rule"); *SEC v. Goble*, 682 F.3d 934, 943 (11th Cir. 2012) (same under securities laws); *SEC v. Rana Research, Inc.*, 8 F.3d 1358, 1364 (9th Cir. 1993) ("The SEC need not prove reliance in its action . . . on the basis of violations of section 10(b) and Rule 10b-5."); *SEC v. N. Am. Research h. & Dev. Corp.*, 424 F.2d 63, 84 (2d Cir. 1970) ("reliance is immaterial because it is not an element of fraudulent representation under Rule 10b-5 in the context of an SEC proceeding against a broker"); *SEC v. Credit Bancorp, Ltd.*, 195 F. Supp. 2d 475, 490-91 (S.D.N.Y. 2002) ("The SEC does not need to prove investor reliance, loss causation, or damages in an action under Section 10(b) of the Exchange Act, Rule 10b-5, or Section 17(a) of the Securities Act.").

³²² GreenHat Response at 2, 14-15.

GreenHat does not dispute that it did this. Its expert concedes that if GreenHat had merely multiplied $P \times Q$, the amount GreenHat would have claimed was only \$6.8 million,³²³ an amount far below what GreenHat needed to offset what PJM saw as a looming \$36 million loss.

7. **If the \$62 Million “Debt” Had Been Real, GreenHat Could and Would Have Insisted on Immediate Payment in 2016 and 2017**

If Shell had actually owed GreenHat the additional \$62 million on the first two deals, GreenHat could and, given its owners’ demonstrated strong desire for immediate cash, certainly *would* have demanded that Shell make those payments immediately after the September 2016 and January 2017 auctions. According to GreenHat’s theory, the amount that Shell owed was based on the numbers in the Price and MW columns in the FTR Center that GreenHat and Shell entered when they transferred the FTRs back and forth. These values did not fluctuate based on actual settlement prices, but were fixed after the deadline for Shell to transfer FTRs back to GreenHat. GreenHat could calculate those amounts instantly; there would have been no need to wait until June 2018 (much less thereafter) to receive the payments.

If GreenHat actually believed that Shell owed it money based on entry of numbers into the FTR Center, it would have demanded that Shell pay GreenHat a total of \$62 million no later than January 2017, in addition to the roughly \$7 million in Final Purchase Price payments from Shell for the first two deals. GreenHat could have then transferred that \$62 million to the accounts of its owners, as it did with the other money it received from bilateral deals. In addition to having the \$62 million, GreenHat’s owners could have earned interest on that sum. Any rational businessperson would want to be paid immediately if possible, rather than waiting for years to receive the payment.

In its July 2020 filing in the *Shell* proceeding, GreenHat attempts to explain its failure to ask for the \$62 million immediately: it says its “agreement” with Shell about the \$62 million “did not specify whether and when an invoice needed to be sent” for the additional money and that it supposedly “ma[de] sense” to apply the “industry standard” that payments would be due “on a rolling basis as [the FTRs] settle, which would begin on June 1, 2018.”³²⁴ That is, GreenHat contends that it voluntarily, and without even asking Shell, gave up the ability to obtain an additional \$62 million by January 2017, instead choosing to take payments in small increments over time between June 2018 and May 2021. The notion that GreenHat’s owners chose to forego this enormous, immediate windfall, without even first asking Shell for it, is wholly inconsistent with GreenHat’s other behavior and is not credible.

³²³ Ledgerwood Report at p. 40, Table 6.

³²⁴ GreenHat Protest at 57.

There is an explanation for GreenHat's behavior that does make sense: GreenHat did not ask Shell for payment based on the "Price x MW" theory in September 2016 or January 2017 because it did not conceive of that theory until April 2017, when it was trying to forestall PJM's threatened margin call. And when GreenHat *did* invent that theory in April 2017, it knew that if it demanded payment immediately, Shell would deny any remaining debt and that GreenHat would lose the ability to try to forestall PJM's collateral call based on that "debt."

H. GreenHat Does Not Meaningfully Dispute That It Rigged PJM Auctions By Using Inside Information In Buying Huge Volumes of FTRs It Had Just Sold to Shell

While GreenHat denies that it used inside information about Shell's offer volumes and prices to rig PJM auctions,³²⁵ that denial is belied by the facts. *First*, GreenHat does not even address, much less attempt to explain away, the fact that the *volumes* of many of its bids on FTRs it had just sold to Shell **were identical to, or exactly double**, the volumes of Shell's offers to sell those same FTRs. For example, GreenHat neither disputes nor tries to explain why it bid in PJM auctions on 1,761 FTR paths in exactly the same volumes at which Shell was selling the same FTRs, or on 1,007 FTR paths in exactly double the volumes at which Shell was selling the same FTRs.³²⁶ It neither disputes nor tries to explain away the fact that in the June 2017 auction, 89% of its bids for the FTRs it sold to Shell were at the same, or exactly double, the volume of what Shell offered into the auction.³²⁷ The only explanation for these undisputed facts is that GreenHat used inside information about Shell's offers in crafting its own bids. (As discussed above (at p. 56), GreenHat was able to determine what bids Shell would submit based on information the parties exchanged in their contract negotiations.)

Second, as to *prices*, GreenHat does not dispute that in the June 2017 auction alone, GreenHat submitted 1,236 bids for FTRs it had just sold to Shell **at exactly 22.22% above the price at which Shell was offering those FTRs**.³²⁸ GreenHat asserts that this was a "coincidence," a claim so outlandish that its own expert declines to support it.³²⁹ Again, the only explanation for these undisputed facts is that GreenHat manipulated PJM

³²⁵ GreenHat Response at 12-14.

³²⁶ See p. 57 above.

³²⁷ See pp. 56-57 above.

³²⁸ See pp. 58-59 above.

³²⁹ GreenHat Response at 13-14. Although GreenHat's economist had Enforcement staff's PF Letter, and has prepared a 52-page report responding to it, he says nothing about the evidence showing that GreenHat rigged the PJM auctions in the ways described above.

auctions by using inside information about Shell's offers to construct its bids for the same FTRs.

I. None of GreenHat's Other Contentions Has Merit

Enforcement staff here briefly addresses a variety of other claims in GreenHat's Response.

1. Deception in PJM auctions. GreenHat suggests that bids and offers in PJM auctions cannot be deceptive because they are not visible to other market participants.³³⁰ GreenHat is wrong: as courts have held under both the FPA and the securities laws, bids and offers in auctions can be deceptive even though they are not visible to other market participants, if they are not based on market fundamentals.³³¹

2. Materials provided. GreenHat does not dispute that Enforcement produced to it the substantive materials provided by third parties during the investigation. It asserts that Enforcement made GreenHat's review "more difficult by providing the material in a jumbled format." But it does not dispute that Enforcement provided the materials in the same form in which it received them. GreenHat also claims that Enforcement is withholding exculpatory evidence based on a work product protection claim for interview notes.³³² GreenHat is incorrect: Enforcement has carefully reviewed its interview notes and has complied with the Commission's policy on exculpatory materials. Indeed, although they are not exculpatory, out of an abundance of caution Enforcement has provided GreenHat with a description of portions of its interview with a Shell employee.³³³

3. GreenHat's last-minute effort to profit by accepting underwater FTRs in return for cash. In 2018, GreenHat offered to accept a set of FTRs from Koch Energy for a payment of \$90,000. GreenHat claims, without evidence, that it "valued the portfolio at \$594" using the Credit Calculator, and therefore "stood to make \$90,594" if Koch Energy accepted its offer.³³⁴

³³⁰ GreenHat Response at 13.

³³¹ *E.g.*, *FERC v. Coaltrain Energy, L.P.*, 2018 WL 7892222, at **12-13 (S.D. Ohio 2018) (under FPA); *FERC v. City Power Marketing, LLC*, 199 F. Supp. 3d at 234-36 (same); *FERC v. Barclays Bank PLC*, 105 F. Supp. 3d 1121, 1146-47 (E.D. Cal. 2015) (same); *see Koch v. SEC*, 793 F.3d 147, 153-54 (D.C. Cir. 2015) (same under securities laws); *Markowski v. SEC*, 274 F.3d at 528-30 (same).

³³² GreenHat Response at 4-5.

³³³ *See* p. 99 above. As a matter of law, the statement by Ryan Kolkmann is not material, because reliance is not an element of a claim under the Anti-Manipulation Rule. *See* p. 101 above.

³³⁴ GreenHat Response at 11.

As discussed above, GreenHat's claim that it "valued" the FTRs using the Credit Calculator at \$954 is untrue: as all three parties (Koch Energy, GreenHat, and the third party that ultimately purchased the FTRs) recognized, the FTRs were underwater based on recent market prices, which explains why both GreenHat and the third party insisted on being *paid* tens of thousands of dollars to take the FTRs and why Koch Energy was willing to pay to get them off its books.

GreenHat argues that the fact that another firm offered to take the FTRs for \$75,000 shows that GreenHat's bid was "economic and legitimate."³³⁵ But unlike the third party, GreenHat knew it was heading for default; indeed, Kittell himself had recently calculated that GreenHat's portfolio was valued at -\$36 million.³³⁶ Being paid to take on losing FTRs on the brink of default is entirely different from a solvent firm making an ordinary business deal that it hopes will make money. GreenHat does not dispute that taking negatively-valued FTRs into its portfolio for cash would have increased the size of GreenHat's impending default while enriching GreenHat's owners. And while GreenHat's gambit did not succeed, it does not dispute that attempted market manipulation is actionable under the FPA.³³⁷

4. Sale of winners to third parties. GreenHat concedes that the FTRs that GreenHat sold had "positive margins," i.e., were winners.³³⁸ It does not dispute that GreenHat told third parties that its intention was to sell positively-valued FTRs in its portfolio,³³⁹ nor can it deny that the only reason a third party would want to pay money for FTRs is if they were expected to be profitable. And while GreenHat's expert claims that a small percentage of the FTRs that Shell bought did not appear in advance to be winners,³⁴⁰ his chart is based on use of the Credit Calculator, which neither GreenHat nor its counterparties used in determining what FTRs to include in deals.³⁴¹ Rather, as GreenHat's own emails show, when it told third parties that it was offering a package of

³³⁵ *Id.*

³³⁶ GH_0020751.xlsx (Kittell spreadsheet); *see* Exhibit 372 (summary of Kittell spreadsheet).

³³⁷ *FERC v. Maxim Power Corp.*, 196 F. Supp. 3d at 200.

³³⁸ GreenHat Response at 12. GreenHat asserts that by selling winner FTRs to Shell, which sold them into PJM auctions, GreenHat locked in profits for itself when the FTRs settled. *Id.* But that makes no sense: GreenHat no longer owned the FTRs and had no right to any profitable spreads when they settled.

³³⁹ *See* note 58 above (quoting GreenHat emails to potential purchasers).

³⁴⁰ Ledgerwood Report, ¶ 103 & n.176.

³⁴¹ *Id.* at 51, Figure 10. As Ledgerwood explains, this chart, like an earlier one in his Report, is based on Credit Calculator values. *Id.* at 44 n.161.

FTRs with a positive value, it always did so based on recent auction prices, never based on Credit Calculator values.³⁴²

IX. REMEDIES AND SANCTIONS

Enforcement staff recommends that the Commission order GreenHat, Bartholomew, Ziegenhorn, and the Kittell Estate jointly and severally, to disgorge GreenHat's unlawful gains. Enforcement staff also recommends that the Commission assess a civil penalty against GreenHat, Bartholomew, and Ziegenhorn.

A. Disgorgement

When a violation results in pecuniary gain, the Commission directs disgorgement of the full amount of the gain plus interest.³⁴³ In addition, when “multiple respondents collaborate or have a close relationship in executing the fraud,” the Commission routinely imposes joint and several liability for disgorgement.³⁴⁴ Here, absent joint and several liability, imposition of liability for disgorgement on GreenHat alone would be futile given the firm's financial status. Enforcement staff recommends that the Commission order GreenHat, Bartholomew, Ziegenhorn, and the Kittell Estate, jointly and severally, to disgorge, with interest, the unjust profits from their scheme, namely, the \$13,072,428 proceeds of GreenHat's deals with Shell and BETM.³⁴⁵

³⁴² See note 58 above (emails to potential purchasers stating that GreenHat proposed to sell FTRs that were profitable based on recent auction clearing prices).

³⁴³ See Penalty Guidelines § 1B1.1(a); Revised Policy Statement on Enforcement, 123 FERC ¶ 61,156, at P 43 (requiring disgorgement “is consistent with long-standing Commission practice . . . and the practice of other enforcement agencies . . .”) (citations omitted).

³⁴⁴ E.g., *Coaltrain Energy, L.P.*, 155 FERC ¶ 61,204 at P 360; *City Power Marketing, LLC*, 152 FERC ¶ 61,012, at P 274 (2015).

³⁴⁵ See *SEC v. Whittemore*, 659 F.3d 1, 10 (D.C. Cir. 2011) (approving joint-and-several liability for disgorgement where there is a close relationship between the defendants and collaboration in executing the wrongdoing). Consistent with that principle, the Supreme Court's recent decision in *Liu v. SEC* confirms that “the common law did . . . permit [joint and several] liability [for disgorgement] for partners engaged in concerted wrongdoing.” 140 S. Ct. 1936, 1949 (2020).

B. Penalties

Penalties against GreenHat are calculated under the Commission's Penalty Guidelines,³⁴⁶ while penalties against individuals are governed by the Commission's Revised Policy Statement on Enforcement.³⁴⁷

1. GreenHat.

GreenHat's fraud has forced PJM to allocate (as of this date) FTR losses of more than \$179 million to other PJM members. Because that amount is larger than any of the Violation Levels in the Penalty Guidelines, this \$179 million in pecuniary loss is the Base Penalty for GreenHat.³⁴⁸

Under the Guidelines, the Base Penalty is then adjusted by the Culpability Score, which determines what multiplier to apply to a corporation's Base Penalty to determine a civil penalty range.³⁴⁹ The base Culpability Score is five (5) points, with points added or subtracted based on several culpability factors. Most of the factors are clearly inapplicable here: high-level personnel involvement (not applicable to a company with so few employees), prior history, violation of an order, obstruction of justice, effective compliance program, self-report, or admission of liability.

The only potentially relevant Culpability Score factor is cooperation. The Guidelines provide for credit on this basis only for "full cooperation." While GreenHat was initially reasonably cooperative in the investigation, its then-owner (Kittell) failed to cooperate in scheduling testimony and GreenHat refused to respond to data requests seeking information (as opposed to documents). Enforcement staff therefore concludes that GreenHat does not qualify for a Culpability Score reduction for full cooperation.

The following charts set forth the Penalty Guidelines calculations:

³⁴⁶ *Enforcement of Statutes, Orders, Rules, and Regulations*, 132 FERC ¶ 61,216 (2010) (Revised Policy Statement on Penalty Guidelines, attaching the FERC Penalty Guidelines). The Penalty Guidelines apply to organizations, not to natural persons. *Id.* § 1A1.1, Commentary, Application Note 1.

³⁴⁷ Revised Policy Statement on Enforcement, 123 FERC ¶ 61,156 at PP 54-71.

³⁴⁸ See Penalty Guidelines § 1C2.2(a) (Base Penalty is "the greatest of (1) the amount from the table in subsection (b) below corresponding to the violation level . . . (2) the pecuniary gain to the organization from the violation; or (3) *the pecuniary loss from the violation caused by the organization*") (emphasis added).

³⁴⁹ *Id.* § 1C2.4 (Minimum and Maximum Multipliers).

<u>Base Factors</u>	<u>Points</u>	<u>Notes</u>
Base	6	§ 2B1.1(a) – applies to fraud and other rule, tariff and order violations
Size of loss increase	26	§ 2B1.1(b)(1)(N) – based on \$179 million default
Volume of MWh	6	§ 2B1.1(b)(2)(C) – violation involved more than 100,000 MWh
Base Penalty Total	38	§ 1C2.2(b) – point score of 38 corresponds to a Base Penalty of \$72.5 million. Because amount of loss (\$179 million) is larger, that amount is the Base Penalty. § 1C2.2(a)(3)

<u>Culpability Factors</u>	<u>Points</u>	<u>Notes</u>
Base	5	§ 1C2.3(a)
High-level personnel involvement	0	§ 1C2.3(b) – GreenHat had at most three employees, which is below the number at which this factor applies
No prior history of the instant violation	0	§ 1C2.3(c)
No violation of an order	0	§ 1C2.3(d)
No obstruction of justice	0	§ 1C2.3(e)
No effective compliance program in place at time of violation	0	§ 1C2.3(f)
No self-report	0	§ 1C2.3(g)(1)
Full cooperation in investigation	0	§ 1C2.3(g)(2)
Culpability Score	5	

With a Culpability Score of 5, the Guidelines' penalty range for an organization is calculated by multiplying the Base Penalty (here, \$179 million) by between 1.0 and 2.0.³⁵⁰ The Penalty Guidelines range for GreenHat is therefore \$179 million to \$358 million. Enforcement staff recommends that the Commission order GreenHat to pay a civil penalty of \$179 million. Because GreenHat implemented its scheme over at least a three-year period, this penalty is within the Commission's statutory authority, at the time of the violations, to impose penalties of up to \$1,307,164 per day per violation.³⁵¹

2. Bartholomew and Ziegenhorn³⁵²

The Commission determines the appropriate penalty for individuals based on the facts and circumstances of the violation. In doing so, the Commission looks to the Penalty Guidelines for guidance,³⁵³ and the Commission's Revised Policy Statement on Enforcement, which identifies five factors the Commission may consider in determining the amount of any civil penalty: (1) the seriousness of the offense, (2) commitment to compliance, (3) self-reporting, (4) cooperation, and (5) reliance on staff guidance.³⁵⁴ Enforcement staff's analysis of these five factors is applicable to Bartholomew and Ziegenhorn.

The violations here were extremely serious: GreenHat's owners carried out one of the largest frauds in the history of organized markets, leading to the largest default in the history of those markets. Bartholomew and Ziegenhorn showed no commitment to compliance, did not self-report their violations, and provided limited cooperation.

³⁵⁰ Penalty Guidelines, § 1C2.4.

³⁵¹ The FPA authorizes the Commission to assess civil penalties of up to \$1,000,000 a day against any person who violates the FPA or any provision of any rule or order thereunder. *See* FPA Section 316A, 16 U.S.C. § 825o-1(b). The maximum penalty is now higher, following enactment of the Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015, which required federal agencies to adjust their penalties for inflation every year. Pub. L. 114–74, § 701(b), Nov. 2, 2015, 129 Stat. 584, 599. In January 2021, the Commission adjusted penalties under the FPA to \$1,307,164 per day per violation. *Civil Monetary Penalty Inflation Adjustments*, *Federal Register*, 86 Fed. Reg. 8133 (Feb. 4, 2021). The change is immaterial here since the proposed penalty range is substantially lower than the maximum allowed by the FPA.

³⁵² California law does not permit collection of penalties from estates. Cal. Probate Code § 377.42. Accordingly, Enforcement staff does not request that the Commission impose any penalty on Kittell's estate.

³⁵³ *Id.* § 1A1.1, Commentary, Application Note 1.

³⁵⁴ *See Moussa I. Kourouma d/b/a Quntum Energy LLC*, 135 FERC ¶ 61,245, at P 42 (2011) (citing 16 U.S.C. 825o-1 and Revised Policy Statement on Enforcement, 123 FERC ¶ 61,156 at PP 54-71).

GreenHat’s three owners personally gained a total of approximately \$13 million from the fraud they orchestrated in PJM’s FTR market through GreenHat. Bartholomew personally received \$2,253,123 in ill-gotten gains, while Ziegenhorn received \$2,402,546.³⁵⁵ The harm they caused—currently \$179 million—is an order of magnitude larger.

We also note that in the three years just before forming GreenHat, Bartholomew helped to conceive and execute the 12 bidding schemes that led to the \$410 million settlement in 2013 with JP Morgan for alleged market manipulation, including a \$125 million disgorgement payment.³⁵⁶ Bartholomew has thus personally executed trading schemes that have led to more than \$300 million in losses to others.

Given the serious, deliberate, and multi-year duration of their fraud, the status of Bartholomew as a “repeat offender,” and the enormous harm they caused to the rest of PJM, we request that the Commission impose a penalty of \$25 million on Bartholomew and a penalty of the same amount on Ziegenhorn.

C. Ability to Pay and Equitable Considerations

No individual Respondent has made any assertion about their ability to pay either disgorgement or (for GreenHat, Bartholomew, and Ziegenhorn) a civil penalty calculated in accordance with the Penalty Guidelines or the Revised Policy Statement on Enforcement. If, during the Order to Show Cause proceeding, an individual Respondent provides complete documentation of their income, assets, and liabilities, the Commission has the discretion to order a different payment amount.³⁵⁷ A Respondent may also raise any equitable considerations that they contend would warrant a different payment amount.

³⁵⁵ See Individual Disgorgement Calculations.xlsx (Cash Flow to Owners tab). The information in this spreadsheet comes from GH_0034042 (General Ledger showing movement of funds in and out of GreenHat accounts).

³⁵⁶ *In re Make-Whole Payments and Related Bidding Strategies*, 144 FERC ¶ 61,068 at P 3, 7, 18.

³⁵⁷ To make an “ability to pay” showing meaningful, the Respondent should submit copies of all financial account statements since 2016, along with an accounting of the Respondent’s assets, liabilities, and income certified by a Certified Public Accountant. The materials could be filed under seal, to permit the Commission to evaluate them, and Enforcement staff to respond to them, without disclosing financial details publicly.

X. TIMING OF PENALTY ORDER

If the Commission decides to issue a Penalty Order, there are special timing considerations in light of the fact that Kittell is deceased and the executor of his estate is therefore named as a Respondent.³⁵⁸

Under California law, lawsuits against an estate are generally required to be filed within one year of the individual's death (here, by January 6, 2022).³⁵⁹ Critically, however, California law has a second time limitation as well: lawsuits against an estate must usually be filed within 90 days after the estate rejects a "Creditor's Claim" filed by the creditor.³⁶⁰ In addition, the FPA requires the Commission to wait 60 days after issuance of a penalty order to file a lawsuit in federal district court.³⁶¹ Taking all of these requirements into consideration, **if the Commission decides to issue a penalty order, it should do so no later than October 1, 2021 to ensure that a lawsuit against the Kittell Estate will be timely.**

XI. CONCLUSION AND RECOMMENDATIONS

For the reasons outlined above, Enforcement staff concludes that the conduct of GreenHat and its owners separately meets each element of the Commission's Anti-Manipulation Rule, and that GreenHat violated the PJM Tariff and Operating Agreement. Accordingly, Enforcement staff requests that the Commission issue an order requiring Respondents to pay the following amounts:

Disgorgement: for revenues received from schemes to date: \$13,072,428, plus applicable interest, for GreenHat, Bartholomew, Ziegenhorn, and the Kittell Estate would

³⁵⁸ The Securities & Exchange Commission has named estates as parties in numerous fraud lawsuits. In each of the following SEC enforcement cases, the defendants included an estate: *SEC v. The End of the Rainbow Partners, LLC*, 2017 WL 5404199 (D. Colo. Nov. 14, 2017); *SEC v. Braslau*, 2016 WL 1735800 (C.D. Cal. May 2, 2016); *SEC v. ISC, Inc.*, 2016 WL 6124499 (W.D. Wis. Oct. 20, 2016); *United States ex rel. Robinson-Hill v. Nurses' Registry & Home Health Corp.*, 2015 WL 3403054, at *5 (E.D. Ky. May 27, 2015); *SEC v. Estate of Saviano*, 2014 WL 5090787 (E.D. Mich. 2014); *SEC v. Wyly*, 860 F. Supp. 2d 275 (S.D.N.Y. 2012); *SEC v. Morgan*, 2008 WL 11333818 (S.D. Fla. Feb. 12, 2008); *SEC v. Grossman*, 2003 WL 133237 (S.D.N.Y. Jan. 13, 2003); *SEC v. Schiffer*, 2001 WL 504860 (S.D.N.Y. May 11, 2001).

³⁵⁹ Cal. Code Civ. P. § 366.2.

³⁶⁰ Cal. Probate Code § 9353(a).

³⁶¹ 18 U.S.C. § 823b(d)(3)(B).

be jointly and severally liable; disgorgement on the same basis for any future revenues from Respondents' fraudulent conduct.

Penalties: for GreenHat, a civil penalty of \$179 million. For the individual Respondents, civil penalties of \$25 million each for Bartholomew and Ziegenhorn.

ATTACHMENT A

GreenHat Energy, LLC Timeline of Events

2014

Summer 2014

Andrew Kittell, John Bartholomew, and Kevin Ziegenhorn, form GreenHat to trade FTRs in PJM.

September 16, 2014

GreenHat joins PJM and posts \$500,000 in collateral to become a PJM member.

October 2014

GreenHat deposits another \$10,000 to enable it to trade.

October - December 2014

GreenHat begins trading in PJM. In its first two FTR auctions, GreenHat buys FTRs based on what will minimize its collateral obligations. In the first auction, it buys 121.6 MWh of FTRs settling the next month, in the second, 18.62 million MWh of FTRs consisting of 7.29 million MWh of 2015/16 planning year FTRs (which would begin settling in June 2015), 5.99 million MWh of 2016/17 planning year FTR, and 5.35 million MWh of 2017/18 planning year FTRs.

2015

January 2015

Kittell and Ziegenhorn contact traders at Vitol, Inc. and Bank of America Merrill Lynch to try to sell GreenHat's entire FTR portfolio from the two auctions in late 2014. Vitol and Bank of America Merrill Lynch reject GreenHat's proposals.

June 2015

GreenHat's first round of FTR purchases begins settling. GreenHat is charged \$76,113 in the first month and continues losing money every month thereafter as these FTRs settle through GreenHat's eventual default in June 2018.

GreenHat shifts to purchasing only out-year long-term FTRs, that is, FTRs that begin settling years in the future.

2016

June – September 2016

GreenHat negotiates and, on August 19, 2016, executes its first bilateral deal to sell FTRs with Shell Energy. The deal is implemented in PJM's September 2016 long-term FTR auction.

August 22, 2016

Kittell writes an email to Shell indicating that the “price” field in FTR Center is a meaningless placeholder.

September 14, 2016

Kittell contacts Mark Egan at Bank of America Merrill Lynch to try to arrange a bilateral sale of FTRs structured like the Shell deal, describing that deal as one for a one-time payment.

September 21, 2016

Shortly after execution of the first Shell deal, Kittell proposes a second bilateral deal with Shell.

October 17, 2016

Kittell writes another email to Shell indicating that the price field in FTR Center is a meaningless placeholder.

October 18, 2016

Shell pays GreenHat approximately \$1.49 million as the Final Purchase Price pursuant to the first bilateral deal.

September 27, 2016

GreenHat contacts Anthony D’Agostino at RBC Capital Markets, LLC to try to arrange a bilateral sale of FTRs under a structure similar to the first Shell deal. Again, GreenHat describes that deal as for a one-time payment. Discussions with RBC about a potential FTR deal occur intermittently through March 2018, but the deal is never completed.

The same day, GreenHat emails Kevin Reeves at BP to try to arrange a bilateral sale of FTRs under a structure similar to the first Shell deal. Again, GreenHat describes the deal as for a one-time lump sum payment.

November 5, 2016

Kittell makes a presentation to Kevin Kelley, the CEO of Roscommon Analytics. Kittell explains that GreenHat purchases FTRs only in the furthest year out, does not perform any power flow analysis or other fundamentals evaluation, and purchases FTRs solely based on hold collateral requirements.

November 13, 2016

GreenHat and Shell execute a second agreement for the bilateral sale of FTRs.

2017

January 6, 2017

Kittell contacts Naveen Arora at Citigroup to try to arrange a bilateral sale of FTRs structured like the Shell deal. Again, Kittell describes the Shell deals as “sales” for a one-time payment.

February 10, 2017

Shell pays GreenHat approximately \$5.21 million as the Final Purchase Price pursuant to the second bilateral deal.

February 27, 2017

GreenHat and Shell execute a third agreement for the bilateral sale of FTRs, to be implemented in the June 2017 FTR auction.

March 17, 2017

PJM contacts GreenHat to advise that PJM is considering making a margin call on GreenHat because the estimated losses on GreenHat’s portfolio (which PJM then estimated at \$35 million) far exceed the minimal amount of collateral GreenHat has posted with PJM.

March 18, 2017

GreenHat’s owners meet to authorize the transfer of \$5.82 million, nearly all its assets, from GreenHat to its holding company, Off Fannin, Inc.

March 20, 2017

GreenHat argues that the pending third deal with Shell would alleviate PJM’s concerns.

March 21, 2017

PJM rejects GreenHat’s March 20 proposal as inadequate.

March 22 to April 12, 2017

GreenHat communicates various proposals and analyses to PJM to try to forestall a margin call. These communications focus on the pending third Shell deal and potential modifications to it.

In the middle of these negotiations, on April 3, 2017, Kittell, Bartholomew, and Ziegenhorn authorize a total of \$5,438,922 in transfers from Off Fannin to their personal accounts or to entities they control.

April 13, 2017

GreenHat emails PJM claiming that Shell owes it approximately \$62.1 million from the first two bilateral deals. In a phone call, PJM asks for confirmation of this claim and for information about past payments from Shell, if any.

April 14, 2017

PJM requests documentation and communications to validate the existence of the \$62 million debt.

April 17, 2017

GreenHat describes the supposed basis for its contention that Shell owes GreenHat an additional \$62 million, but does not provide the requested documentation or communications.

April 19, 2017

PJM reiterates its questions regarding validation of the debt and whether Shell has already paid money to GreenHat. Around the same time, PJM seeks permission to contact Shell to validate the debt, but GreenHat refuses, arguing that it would jeopardize the pending third bilateral deal.

April 20, 2017

GreenHat sends an email that does not answer PJM's question about whether it had already been paid by Shell, but instead attaches invoices that it claims it will send starting in 2018.

June 3-15, 2017

PJM conducts June 2017 long-term FTR auction. Shell offers the GreenHat FTRs into the auction. Knowing the volumes and prices at which Shell will offer the FTRs, GreenHat places bids on 90.5% of the FTRs that Shell is selling, and almost always bids at 22.22% above the prices at which it knows Shell is offering.

June 15, 2017

Shell pays GreenHat approximately \$4.37 million as the Final Purchase Price pursuant to the third Shell deal. GreenHat transfers the money to Off Fannin the same day.

June 23, 2017

PJM and GreenHat execute a Partial Assignment and Pledge Agreement, in which GreenHat pledges to PJM the proceeds from the \$62 million that Shell will supposedly owe starting in June 2018.

July 5-17, 2017

Over this time period, Off Fannin transfers approximately \$4.9 million to the personal accounts of Kittell, Bartholomew, and Ziegenhorn.

July 20, 2017

Seeking another bilateral FTR sale, Kittell emails Shell a new proposed portfolio of FTRs.

August 25, 2017

Kittell follows up with Shell via email regarding the proposed additional bilateral FTR deal. Shell declines to proceed.

August 28, 2017

Kittell has a call with Roscommon Analytics employees Andrew Lee and Srinivas Jampani to discuss a potential FTR deal.

August 29, 2017

Kittell suggests an FTR deal designed to reduce the amount of collateral Roscommon must keep posted with PJM.

September 15, 2017

Kittell suggests a single FTR to be sold to Roscommon to prove the collateral reduction effects asserted by GreenHat.

September 19, 2017

Kittell creates a spreadsheet to calculate the current mark-to-auction value of GreenHat's portfolio. He derives a value of approximately negative \$36.5 million.

September 29, 2017

Bartholomew creates a spreadsheet to calculate the current mark-to-auction value of GreenHat's portfolio. Like Kittell, he comes up with a value of approximately negative \$36.5 million.

September 2017

Throughout September and into October 2017, GreenHat corresponds with potential investor Matt Arnold about a possible FTR deal. In an email to third party helping him evaluate the pitch, based on what he had heard in a meeting with Bartholomew and Ziegenhorn, Arnold characterizes GreenHat as "three guys who put the portfolio together to exploit an arb in the way PJM calculates credit reserve requirements. . . . [I]t is a giant leveraged long position." Arnold writes that in the event of default, GreenHat would "just shut down the LLC and walk away."

October 10, 2017

Kittell sends Andrew Lee of Roscommon Analytics a proposed portfolio for a bilateral sale of FTRs. Roscommon never agrees to do a deal.

October 26, 2017

Kittell emails Shell again seeking a bilateral deal to sell FTRs, but Shell does not pursue a further deal.

2018

January 22, 2018

The three owners enter into a breakup agreement in which Kittell becomes the sole owner of GreenHat. Under the deal, Bartholomew and Ziegenhorn are still entitled to share in the proceeds of future sales of FTRs to third parties.

That same day, Kittell sends another proposed portfolio to Roscommon Analytics, proposing a bilateral sale of FTRs. He describes the proposed transaction as a one-time payment following reporting of transfer of the FTRs on PJM's eFTR site. Roscommon does not complete any deal.

February 28, 2018

Kittell contacts a former J.P. Morgan colleague at Koch Energy Services to see if Koch is willing to pay GreenHat \$90,000 to take on negatively-valued FTRs. Koch does not complete the deal with GreenHat.

March 23 – April 4, 2018

GreenHat enters a bilateral deal with Boston Energy Trading and Marketing (BETM) to sell FTRs in a simple asset sale for a lump sum payment. On April 4, BETM transfers \$2 million to GreenHat to complete the deal.

April 2018

GreenHat distributes the proceeds of the BETM deal to Kittell, Bartholomew and Ziegenhorn. On April 11, 2018, GreenHat transfers \$1.85 million to Off Fannin. Next, on April 23, 2018, Off Fannin transfers \$499,500 apiece to Bartholomew and Ziegenhorn and \$851,000 to Kittell. Finally, on April 30, 2018, Bartholomew transfers \$301,200 to his wife's bank account.

May 4, 2018

Kittell emails Shell again seeking to negotiate additional bilateral FTR sales. This communication is the first time GreenHat suggests to Shell that it has additional payment obligations.

May 15, 2018

A representative from Shell's contracts team advises GreenHat that it sees no outstanding transactions to settle.

May 18, 2018

Kittell provides Shell with information about the bilateral trades from FTR Center to establish amounts supposedly still owed pursuant to the Shell deals.

May 21, 2018

Shell responds that no further obligations exist.

May 30, 2018

PJM contacts GreenHat about preparations to receive money in the special account called for in the Pledge Agreement. GreenHat informs PJM that it contacted Shell and that Shell denies that there are any further obligations between the parties.

June 1, 2018

GreenHat's 2018/19 planning year FTRs begin to settle. GreenHat's losses accrue quickly.

June 8, 2018

Because GreenHat's obligations already exceed its posted collateral, a Credit Analyst from PJM's Treasury Department sends a breach notice to GreenHat to formally request additional collateral or prepayment. At this time, GreenHat's working credit limit is \$388,468 and its obligations to PJM are \$856,830.

June 12, 2018

PJM distributes weekly billing statements for the week June 1-6, 2018.

Because GreenHat has failed to post additional collateral or make any payments in response to the June 8 breach notice, PJM formally declares GreenHat in default.

June 13, 2018

GreenHat's obligations to PJM are now \$2.72 million.

June 2018 – present

Pursuant to the PJM tariff, GreenHat's losses are socialized among PJM members and will continue to be as GreenHat's FTRs finish settling. As of March 2021, this amount exceeds \$179 million.

November 2018

GreenHat files suit against Shell in state court in Harris County, TX, on the basis of the alleged \$62 million debt. After initially proceeding quickly at GreenHat's insistence, the lawsuit has been stayed for more than a year at GreenHat's request.

ATTACHMENT B

Excerpts from Auditor Documents Showing that GreenHat Described the First Two Shell Deals as Asset Sales Resolved by Payment of the Final Purchase Price

The following is a summary of documents produced by GreenHat's auditors (originally Hein & Associates, later merged into Moss Adams) discussing GreenHat's deals with Shell:

As to the first Shell deal, the auditors wrote the following note in a spreadsheet on March 15, 2017. In the note, written two days before PJM called GreenHat about a margin call, the auditors referred to the first Shell deal as a "sales transaction" with a price that reflected that it was a "get in the door" transaction to establish a relationship with Shell. The auditors said nothing about future payments (beyond the Final Purchase Price) or about those payments being for an "option" to purchase FTRs.

H&A obtained the below calculation from Andrew Kittell, Managing Member for the transactions related to **the sale transaction with Shell in August 2016**. . . . **The first transaction with Shell was a "get in the door" type transaction for the Company and they were not as concerned about the differences between the FTR values and the sales price.** The Company was not as strict with their indexes and **the final purchase price** was based on the next PJM auction prices. The prices on the auction were slightly lower than expected and therefore resulted in a difference between the FTR values and **the sales price**. Andrew noted that going forward (and including the November transaction), the Company raised the thresholds [sic] on the index to ensure that FTRs which did not fall within the parameters of the agreed upon prices were returned to GreenHat. H&A notes this is consistent with our understanding of the contracts as noted in the referenced workpapers. As such, **sales transactions appear[] properly classified and recorded.**³⁶²

That same day (March 15), the auditors described the second Shell deal the same way:

Note: H&A obtained the below calculation from Andrew Kittell, Managing Member for the transactions related to **the sale transaction with Shell in November 2016**. H&A notes that the credit calculator has a value of \$5.3MM for the FTR, which is slightly higher than the sales price of \$5.2 million as noted at wps 901/900.9. Therefore, appears FTR sales transactions are properly recorded. H&A notes this is consistent with our

³⁶² MA - 00000527.xls ("Credit Calculation Cleared – Aug" tab) (emphasis added).

understanding of the contracts as noted in the referenced workpapers. As such, **sales transactions appears [sic] properly classified.**

* * * *

Note 2: H&A notes that **the client has included the second Shell sales transaction as revenue and A/R as of year-end.** H&A notes per the contract at wp 900.0 that the purchase was for the FTR long-term auction, round 3. H&A noted PDW Andrew Kittell and also verified per observation of the PJM interconnection website that the auction was held on 12/12/16. H&A notes further per review of the Shell contract that Shell had 7 business days to return any unwanted FTR's. As such, the option period for Shell to return any FTR's ended on 12/21/16 and **was therefore reasonable to include the \$5.2MM transaction as 2016 activity.**³⁶³

The final 2017 GreenHat financial statements issued by Moss Adams on March 27, 2017 (just before Andrew Kittell assured PJM that Shell owed GreenHat \$62 million to be paid in the future) likewise accurately describe the first two Shell deals as “completed FTR sales” for one-time purchase prices. The financial statements, based on information obtained from Andrew Kittell, contain the following note:

During 2016, the Company engaged in two bilateral transactions with another company to sell a portion of their FTR positions. **The sales price was calculated as the summation of the FTR net volumes multiplied by an agreed-upon discount factor. The Company completed FTR sales of approximately \$6.7 million during 2016. Proceeds of \$5.2 million was accrued as of December 31, 2016 and received in 2017.**³⁶⁴

* * * * *

³⁶³ MA - 00000527.xls (“Credit Calculation Cleared – Nov” tab) (emphasis added).

³⁶⁴ GH_0008761, at GH_0008769 (Greenhat Energy, LLC - Financial Statements and Independent Auditor's Report – December 31, 2016, and 2015) (emphasis added).

The following “permanent file summaries” are from Moss Adams’ work papers (as of March 29, 2017) for their audit of GreenHat’s year-end 2017 financial statements: In these work papers, based on information obtained from Andrew Kittell, the auditors describe the deals as being resolved through Shell’s payment of the Final Purchase Price, and make no mention of any future payments from Shell: ³⁶⁵

Where:

FTR Return MW means the individual FTR’s MW quantity returned to GreenHat following PJM’s 17/20 Long-Term FTR Auction, Round 3;
Return Value means Threshold; and
Discount Factor means 0.71.

FTR Portfolio see Attachment 1

901 – August 2016 Shell Deal Payment

Invoice Date: 01/02/2017

Payment Due Date: 01/31/2017

Invoice Amount: \$5,213,276.11

Invoice Number: 1701

Description: Final Purchase Price of \$5,213,276.11 due under Financial Transmission Rights Purchase & Sale dated November 13, 2016

³⁶⁵ MA – 00000524-25 (saved by Moss Adams on Mar. 29, 2017) (bold in original).

2016 Permanent File Summaries

900.6 – FTR Portfolio Acquisition 8.19.16

Buyer: Shell Energy North America (US), L.P.

Seller: GreenHat Energy, LLC

Date: 8.19.16

Initial Purchase Price: $\text{FTR Price} = (\text{Discounted Value}) \times \text{FTR MW}$

Where:

Discounted Value means the greater of (i) (MCP minus Cost Basis) times 0.73 or (ii) \$1,000/MW

FTR MW means the individual FTR's MW quantity as specified in Attachment 1

Final Purchase Price: by subtracting \$1,000 from the Initial Purchase Price for each MW in the FTR Portfolio

FTR Portfolio see Attachment 1

900.7 – 1st Amendment to FTR Portfolio Acquisition 8.19.16

Date: 8.25.16

Amend and restate Attachment 1

900.8 – August 2016 Shell Deal Payment

Invoice Date: 10/12/2016

Invoice Amount: \$1,490,980.42

Invoice Number: 1601

Description: Final Purchase Price of \$1,490,980.42 due under Financial Transmission Rights Purchase & Sale dated August 19, 2016

900.9 - FTR Portfolio Acquisition 11.13.16

Buyer: Shell Energy North America (US), L.P.

Seller: GreenHat Energy, LLC

Date: 11.13.16

Initial Purchase Price: $\text{FTR Value} = \text{FTR MW} \times \text{Value} \times \text{Discount Factor}$

Where:

FTR MW means the individual FTR's MW quantity as specified in Attachment 1

Value means the greater of (i) ACP or (ii) Threshold

Discount Factor means 0.71

Final Purchase Price: by subtracting the FTR Return Value for each FTR

$\text{FTR Return Value} = \text{FTR Return MW} \times \text{Return Value} \times \text{Discount Factor}$

In the 2017 GreenHat financial statements prepared by Moss Adams (based on information from Kittell), dated September 7, 2017, Moss Adams described the third Shell deal as a “completed” sale for \$4.4 million. These financial statements described certain mechanics of the PJM pledge agreement but said nothing about any future payments from the first two Shell deals:

During 2017, the Company engaged in a bilateral transaction with another company to **sell a portion of their FTR positions**. See discussion of related pledge agreement in Note 4, Commitments and Contingencies. The **sales price** was calculated as the summation of the FTR net volumes multiplied by an agreed-upon discount factor. The Company **completed FTR sales of approximately \$4,400,000** during 2017.

* * * * *

In June 2017, the Company entered into a pledge agreement with PJM that terminates on June 30, 2020. As part of the agreement, the Company was required to establish a separate deposit account and instruct the Company's counterparty to their bilateral sales agreements to deposit all funds into the deposit account. PJM was granted a security interest in the deposit account.

The Company has established a billing period with PJM as part of the pledge agreement whereby a cumulative difference is calculated to determine the net amount due to or due from PJM. At the termination of the agreement, PJM will distribute to the Company any remaining positive cumulative difference. As of September 30, 2017, the deposit account balance was \$0.³⁶⁶

In Moss Adams' work papers (created on April 14, 2018, and last saved on June 4, 2018) for GreenHat's financial statements as of year-end 2017, the auditors continued to describe the Shell deals (in this case, the third Shell deal) as "sales," and to state that the sales price of the 2017 deal was \$4.3 million. After communicating with Kittell by phone and email for weeks, Moss Adams said nothing about future payments from Shell for that deal or for either of the first two Shell deals.

Note: MA [Moss Adams] had discussions with Andrew Kittell throughout the audit and specif[i]cally on April 18, 2018 about the Company's plans for continuing as a going concern. Per Andrew, the below FTR projected settlements serve as the Company's cash flow analysis through the end of the projected FTR settlements. MA notes that the Company received a PJM collateral/margin notice informing the Company of a shortfall of approximately \$59MM. MA notes the net settlements of the total FTR positions below are ~\$52MM. However, Andrew noted that GreenHat anticipates the collateral/margin requirement will decrease as the FTR positions settle. Andrew notes that the Company is required to have collateral even in instances in which the Company is in an asset position. MA notes this is not uncommon for this type of industry. Andrew gave the

³⁶⁶ GH_0006161, at GH_0006169-70 (GreenHat Energy, LLC Financial Statements and Independent Accountant's Review Report - June 30, 2017) (Sept. 7, 2017) (emphasis added).

example [of] a FTR “buy” for \$101 and FTR “sell” position for \$100 (net \$1) and the Company may still be required to have collateral of \$50 in some instances. Therefore, he believes it is not unreasonable for the collateral/margin requirement to be drastically reduced once the Jan 2018-April 2019 positions settle (approximately 80% of the FTR positions in total). **Additionally, the Company has shown the ability and intent to engage in bilateral transactions to free up additional capital. MA notes the Company had bilateral sales of \$4.3MM in 2017** and a simple sale of \$2MM in 2018. Although the Company is restricted in trading FTR which require additional collateral, the Company is able to engage in “credit-reducing” trades would do not require additional posted collateral. As such, MA takes no exception to management’s plans to continue as a going concern. MA will disclose the significant collateral notice as part of a liquidity footnote 2.³⁶⁷

In the final year-end 2017 financial statements prepared by Moss Adams (based on information from Andrew Kittell), dated April 24, 2018, the auditors again described the third Shell deal as a completed sale for \$4.4 million. And again, in discussing the PJM pledge agreement, Moss Adams said nothing about any future payments from Shell for any of the three deals with GreenHat:

During 2017, the Company engaged in a bilateral transaction with another company to sell a portion of their FTR positions. The **sales price** was calculated as the summation of the FTR net volumes multiplied by an agreed-upon discount factor. The Company **completed FTR sales of approximately \$4,400,000** during 2017.³⁶⁸

³⁶⁷ MA - 00000539, tab FTR DCF Dec 2017 (last modified by Jon Timmer on June 4, 2018) (emphasis added).

³⁶⁸ MA - 00000713, at MA - 0000722 (Financial Statements and Independent Auditor’s Report – GreenHat Energy, LLC, December 31, 2017, and 2016) (emphasis added).

ATTACHMENT C

GreenHat's Tools for Selecting What FTRs to Bid on and What Bid Prices To Submit

GreenHat has produced spreadsheets created in 2015, and last modified in 2017, such as GH_0020256, that show how it chose which FTRs to bid on and how it set its bid prices. As these spreadsheets show, GreenHat's method generally fell into three steps. First, GreenHat pulled from PJM data a list of all FTRs on which any market participant had made a cleared transaction in the most recent three Long Term Auctions, along with the clearing prices for each transaction. GreenHat set the MW volume of its (potential) bids at the greatest total volume traded in either direction in any single round.³⁶⁹ For example, if one market participant bought 3 MWs of A-B, and another sold 5 MWs of B-A, GreenHat would set its bid quantity to $3 + 5 = 8$ MWs.³⁷⁰

Second, with one important exception,³⁷¹ GreenHat determined its own bid price for each of the paths it just identified by taking that path's previous auction clearing price and adding 10%.³⁷² Unlike traders seeking to profit by assessing how much individual FTRs were worth, GreenHat used this mechanical formula—10% above previous market prices—to decide what prices to submit for its bids for FTRs.³⁷³ GreenHat's reliance on this invariant pricing formula is further evidence that its goal was simply to amass an enormous portfolio of FTRs, not to make an investment aimed at a profitable overall portfolio.

Finally, GreenHat plugged the bid quantity and bid prices it determined in steps one and two into a third spreadsheet with data from PJM's Credit Calculator about the

³⁶⁹ See, e.g., GH_0020307.

³⁷⁰ GreenHat appears to have added these transactions together because buying an FTR with Source A and Sink B is generally equivalent to selling an FTR with Source B and Sink A.

³⁷¹ In the June 2017 long-term auction, as discussed in detail above, GreenHat changed its method of setting bid prices: for FTRs it had sold to Shell, GreenHat nearly always set its bid prices at exactly 22.22% above the price at which Shell had offered the FTRs into the PJM auction. Like GreenHat's reliance on a 10% adder above previous market prices for other bids, its mechanical reliance on a 22.22% adder to Shell's offer prices in the June 2017 auction shows that GreenHat was simply trying to acquire a massive FTR portfolio and not to acquire FTRs based on economic fundamentals.

³⁷² See, e.g., GH_0020301.

³⁷³ *Id.* A comparison of GreenHat's bid prices to past auction clearing prices shows the same thing. See PJM_Data_Extract_00001_GreenHat Activity in PJM Auctions. FTR clearing prices are available from PJM and third parties.

collateral requirements for each FTR path.³⁷⁴ With the bid quantity for each path as its historical maximum cleared MWs and the bid price as a 10% increase of each path's previous auction clearing price as inputs, GreenHat used an Excel tool called "Solver" to find the set of FTRs that would minimize the amount of collateral that GreenHat would need to post.

This screenshot from GH_0020256 illustrates how GreenHat used Solver to find the FTR purchases that would minimize its collateral:

Set Objective:

To: ☐ Max ☒ Min ☐ Value Of:

By Changing Variable Cells:

Subject to the Constraints:

- \$AA\$14:\$AL\$14 <= 150
- \$AA\$14:\$AL\$14 >= -0.5
- \$D\$3 <= 10
- \$D\$3 >= -1
- \$D\$4 <= 10
- \$D\$4 >= -1
- \$E\$3:\$E\$4 <= 10000
- \$E\$3:\$E\$4 >= 0
- \$K\$2 <= 0
- \$L\$17 <= -8000000
- \$M\$17 <= -900000

☒ Make Unconstrained Variables Non-Negative

Select a Solving Method:

Buttons: Add, Change, Delete, Reset All, Load/Save, Options

Solving Method

Select the GRG Nonlinear engine for Solver Problems that are smooth nonlinear. Select the LP Simplex engine for linear Solver Problems, and select the Evolutionary engine for Solver problems that are non-smooth.

In this spreadsheet, GreenHat has set the Solver tool to minimize Cell M17, which is an estimate of the greatest amount of collateral that GreenHat will be required to post

³⁷⁴ See, e.g., GH_0020256.

in a single month over the relevant period.³⁷⁵ The amount of collateral each FTR required varied from month to month, so GreenHat set the Solver tool to ensure that the collateral requirement in the “worst” month would be as low as possible.

Nothing in the firm’s FTR selection procedure was designed to find the set of FTRs that are most likely to be profitable in the future. Consistent with that point, the inputs to GreenHat’s FTR selection procedure did not include any information about likely changes in transmission, generation, weather patterns, or other fundamental factors that could influence congestion during the planning year (e.g., June 2018-May 2019). Rather, GreenHat chose the set of FTRs that would enable it to reduce its collateral obligations as close to zero as possible, no matter what the merits of those FTRs might be as investments. Indeed, as the trend on the charts on pp. 26-27 above show, GreenHat discovered it was possible to purchase FTRs that would actually decrease the amount of collateral that GreenHat was required to post, and result in a return of funds from PJM, even as it massively increased the size of its portfolio.

³⁷⁵ GreenHat also created other spreadsheets in which it used the Solver tool to optimize other variables, such as the “head-start” value and the volume of MWs they could acquire. None of these targeted the profitability of the FTR paths, and by GreenHat’s own admission it relied on collateral minimization to choose what paths to bid on.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

GreenHat Energy, LLC, John Bartholomew,
Kevin Ziegenhorn, and Luan Troxel, in her
capacity as Executor of the Estate of
Andrew Kittell

Docket No. IN18-9-000

(Issued May 20, 2021)

DANLY, Commissioner, *concurring*:

1 In June of 2018, GreenHat Energy, LLC (GreenHat) defaulted on its obligations under the Financial Transmission Rights (FTR) market operated by PJM Interconnection, LLC (PJM). This was the largest default in the history of PJM's FTR market, and it imposed approximately \$179 million in losses on PJM Members. PJM was roundly and, in my view, justly, criticized for its deficient collateral requirements and oversight of GreenHat that allowed this default to occur.

2 However, PJM was not the only party at fault. Given the magnitude of the default, the Commission appropriately initiated an investigation of GreenHat and its owners (collectively GreenHat)¹ by the Office of Enforcement (Enforcement). Now that Enforcement's investigation is complete, I support the Commission's issuance of an Order to Show Cause in this proceeding. As the primary regulator of PJM's FTR market, the Commission has the responsibility to make an official public determination as to whether or not GreenHat's default was the result of fraud or manipulation.

3 But my support for the issuance of the Order to Show Cause is based solely on my belief that the Commission has the responsibility to issue an official pronouncement as to whether GreenHat engaged in fraud or manipulation. My support of *this* order should not be read as an indication that I have reached any conclusions at this time on the ultimate question of GreenHat's liability. I am issuing this concurring statement to provide some guidance to the parties as to what I believe would be helpful for them to address in their submissions in response to the Show Cause Order.

¹ GreenHat's owners were John Bartholomew, Kevin Ziegenhorn, and Andrew Kittell. Mr. Kittell is now deceased, and the Commission has named his estate as a respondent to the Order to Show Cause and indicated that the estate is potentially liable for disgorgement of profits from the alleged manipulative scheme. As explained in Section V, one of the questions I have for the parties is whether the Kittell Estate should be held jointly and severally liable for any disgorgement the Commission determines should be made by GreenHat's owners.

4 Based on my review of the Enforcement Staff Report and Recommendation (Staff Report), I have questions and concerns about both Enforcement's and GreenHat's positions. I list those concerns below, organized by Enforcement's principal alleged violations. I request that both GreenHat and Enforcement address these issues in their submissions.

I. Allegations that GreenHat Committed Fraud by Purchasing FTRs Without Consideration of Value and With No Intent to Pay at Settlement

5 The crux of Enforcement's primary manipulation claim is that GreenHat purchased FTRs based solely on the basis of minimizing its collateral obligations to PJM, and without regard to the actual value of the FTRs. Enforcement concludes that GreenHat intended to sell the "winners" and then walk away from the "losers" when GreenHat's payment associated with those losing FTRs came due in the future.

6 Enforcement fails to address, however, the fact that the reason little or no collateral was required for the FTRs GreenHat purchased was because PJM itself had determined that those FTRs were, in the aggregate, valuable "winners." PJM did not require GreenHat to post collateral for the purchase of these FTRs because PJM believed there was little risk that GreenHat would have a payment obligation when the time came for the FTRs to be settled.

7 Enforcement asserts that the values GreenHat said it placed on the FTRs it purchased were based on stale historic data that no one seriously would consider in valuing the FTRs.² But Enforcement does not address the significance of the fact that PJM itself *did rely* on the data as representing the best available estimate of the FTRs' value. Further PJM—and PJM's Independent Market Monitor (IMM)—vigorously defended PJM's methodology when FTR traders asserted that the values were incorrect based on more sophisticated valuation techniques, including forecasts of future power flows and mark-to-market valuations. Nor does Enforcement address the fact that PJM had every incentive to correctly evaluate the FTRs' values, because those values were used to determine the amount of collateral PJM required for entities engaged in FTR trades.

8 What is more, Enforcement does not address the fact that, as the market operator and market monitor, respectively, PJM and the IMM had the greatest access to market data and the best ability to analyze that data. It is clear now, after the fact, that PJM's values were profoundly wrong, but the fact that PJM and the IMM strongly supported the

² See Staff Report at 17 ("GreenHat has offered no evidence, and Enforcement staff is aware of none, supporting the idea that a rational trader would ever buy financial instruments—much less accumulate the largest portfolio in an entire market—exclusively based on stale pricing information from as much as seven years before the time when the instruments settle.").

use of those values at the time would seem to undercut Enforcement's allegations that GreenHat could not credibly claim to have relied on the values PJM placed on the FTRs that GreenHat purchased.

9 The only attempt by Enforcement in the Staff Report to address the significance of the PJM valuations is to assert there is no evidence GreenHat knew of the existence of PJM's defenses of its values that were made in the pleadings PJM filed with the Commission and that other PJM statements were made after GreenHat had started purchasing FTRs and that PJM was not purporting to provide investment advice to FTR traders.³ In my view, this misses the essential point. The record shows that GreenHat did know it was using PJM's method for valuing the FTRs being traded. It seems to me the fact that PJM clearly believed in the validity of its values undercuts Enforcement's claim that no reasonable FTR trader would have relied on those values, even if GreenHat was not aware of the exact statements PJM made to defend its valuation methodology and PJM was not providing investment advice.

10 I am troubled by Enforcement's failure to address the significance of PJM's belief in its own valuation methodology and would like to hear more from it on this issue. I am also interested in GreenHat's views.

11 Of course, just because PJM believed in its valuation methodology does not necessarily mean that GreenHat agreed with, or cared about, PJM's conclusions. In that regard, the Staff Report cites to certain indirect evidence suggesting that GreenHat did not believe in PJM's valuations, or at least was indifferent to those valuations except as they related to the amount of collateral required for the purchase of FTRs. This evidence includes two emails describing meetings the authors had with GreenHat in which GreenHat described its FTR strategy,⁴ a PowerPoint presentation GreenHat prepared for use in soliciting investments,⁵ valuations GreenHat used in its efforts to sell some of the FTRs in its portfolio that differed from the PJM values,⁶ and an internal GreenHat spreadsheet that Enforcement alleges shows a mark-to-auction calculation demonstrating that GreenHat's FTR portfolio had a negative \$36.5 million value.⁷ The Staff Report also cites to evidence indicating that GreenHat transferred the proceeds from FTR sales from its account to its owners at the same time it was telling its counterparties to those

³ *Id.* at 83-85.

⁴ *Id.* at 19 (citing Hotline email (Roscommon_00001) (Email from K. Kelley to Enforcement Hotline) (June 25, 2018)), 20-21 (citing MA-0000000062 (Email from M. Arnold to P. Dadone) (Sept. 5, 2017, 11:06)).

⁵ *Id.* at 27-28 (citing GH_0004094, Passive Investing PJM FTR Market (PowerPoint presentation directed at potential investors) (Oct. 21, 2016)).

⁶ *Id.* at 22 & n.58.

⁷ *Id.* at 23.

transactions that it was making the sales to support its business activities or to purchase FTRs in the next annual auction.⁸ Finally, the Staff Report asserts that GreenHat knew that trading based on the PJM values would be unprofitable because of losses GreenHat incurred when purchasing FTRs in 2014.⁹ I would like to hear more from GreenHat about the significance of this evidence and whether it supports Enforcement's claims about GreenHat's FTR strategy.

12 Also, although not specifically mentioned in the Staff Report, GreenHat's conduct in purchasing such an unprecedentedly large number of FTRs also suggests that GreenHat was, at the very least, indifferent to the value of the FTRs it was purchasing. One would expect that, with such a large number of FTRs, GreenHat would have some concerns about its exposure if PJM's values were not correct, as at least some other FTR traders were asserting. But instead of selling its FTRs or taking other steps to hedge its risk, GreenHat increased its purchases of FTRs with positive values assigned by PJM. This had the effect of reducing GreenHat's collateral obligations under the FTR values that PJM was using, but it also greatly increased GreenHat's potential exposure if those values turned out to be wrong. I would like to hear from GreenHat regarding the significance of the magnitude of GreenHat's FTR purchases and GreenHat's apparent lack of concern about the potential that PJM's valuations might not be correct.

13 I also would like to hear from GreenHat about any documents that contradict Enforcement's allegations about GreenHat's FTR strategy or the valuation it internally placed on its FTR portfolio.

14 Finally, it appears to me that the email from Matt Arnold, quoted repeatedly in the Staff Report, does not actually describe the manipulative scheme Enforcement has alleged. That email reads as follows:

It's three guys who put the portfolio together to exploit an arb in the way PJM calculates credit reserve requirements. Basically they could buy an FTR that was trading at a level under its PJM credit reserve (calculated on prior years pricing) and instantly have a position that was ATM from market price perspective but PJM would view it as ITM from a credit perspective. So PJM would issue them collateral that they could use to buy more FTRs. So basically it is a giant leveraged long position.

PJM eventually figured it out and they negotiated an agreement where some of their premium from bilateral sales would accrue to a credit reserve. There are no option positions per se, only an asymmetric payout profile. *If the portfolio ever goes OTM to an extent that exceeds the credit reserve, they just shut down the LLC and walk away. But if there is extreme*

⁸ *Id.* at 32.

⁹ *Id.* at 81.

weather event or otherwise congestion prices spike, there is upside.
Portfolio is almost entirely long except for some bilateral sales.¹⁰

15 Nothing in this email suggests that GreenHat told Arnold that it purchased FTRs with the plan of selling the winners and walking away from the losers. Instead, one way to read this email is that Arnold believed GreenHat saw the opportunity, given “the way PJM calculates credit reserve requirements,” to make speculative bets that there would be an “extreme weather event or otherwise congestion prices [would] spike,” in which case “there is upside” and GreenHat could make a profit. These bets would have a very low cost because of PJM’s collateral requirements. And if such events did not happen and GreenHat’s portfolio was out of the money, “they just shut down the LLC and walk away.” I would like to hear from GreenHat and Enforcement as to: (a) whether this represents a more plausible description of GreenHat’s FTR strategy; and (b) if so, whether that strategy constitutes manipulation in violation of the anti-manipulation provisions of the Federal Power Act and the Commission’s Anti-Manipulation Rule.

II. Allegation that GreenHat Made False and Deceptive Statements to PJM About a Non-Existent \$62 Million Debt from Shell

16 Another important claim against GreenHat relates to the Pledge Agreement that GreenHat entered into with PJM in order to forestall a margin call. According to Enforcement, GreenHat’s statement made to PJM that the agreement covered \$62 million in payments owed to it by Shell was “knowingly false.”¹¹ Enforcement asserts that, instead, Shell had already fully paid for all FTRs covered by its agreements with GreenHat. If this is correct, then that potentially could represent an independent ground for a fraud or manipulation claim even if Enforcement’s allegations about GreenHat’s reasons for purchasing the FTRs in the first place were found to have no merit.

17 GreenHat contends that the parties could have reached agreement to pay prices entered into PJM’s FTR Center. While I agree with this, I also agree with the Commission’s previous finding that the mere entry of prices into the FTR Center does not establish a contractual obligation to purchase FTRs at that price.¹² I would like to hear more from GreenHat about any additional evidence supporting its contention that the prices entered into the FTR Center were contractually-agreed prices that obligated Shell

¹⁰ *Id.* at 20-21 (quoting MA-0000000062 (Email from M. Arnold to P. Dadone) (Sept. 5, 2017, 6:03 p.m.)) (emphasis added).

¹¹ *Id.* at 44.

¹² *See Shell Energy North America (US), L.P.*, 175 FERC ¶ 61,025, at P 29 (2021) (“We therefore disagree with GreenHat’s contention that the PJM Tariff and the Commission’s orders from 1999 demonstrate that entering information into the FTR Center price field alone generates bilateral agreements between market participants.”).

to pay more for the FTRs it purchased than was reflected in the letter agreements between GreenHat and Shell.

18 I also would like to hear more from both GreenHat and Enforcement about the evidence showing that there were negotiations between GreenHat and Shell as to the prices entered into PJM's FTR Center. Enforcement alleges—convincingly—that entry of prices in these fields have no substantive effect on their own. However, the entry of prices in the fields could have substantive effect if the parties had a separate agreement giving such prices contractual significance. And Enforcement does not provide an explanation as to why the parties would engage in negotiations over the entries in the price field if they believed that such entries were irrelevant to contracts where all payments already had been made. I also would like to hear from GreenHat on this question, particularly whether there is any evidence, other than the evidence showing that there were negotiations over the price entries, suggesting there was a contractual agreement by Shell to pay GreenHat the amounts entered into the price fields.

19 I also note a concern I have with one of Enforcement's allegations regarding the Pledge Agreement. Specifically, Enforcement alleges that GreenHat prevented PJM from contacting Shell to confirm the validity of GreenHat's assertions that Shell owed an additional \$62 million in payments. However, in footnote 124 of the Staff Report, Enforcement states that "on or about March 29, 2017, [Shell employee] Kolkmann explained the then-pending third deal with GreenHat and also the first two deals, which he said were completed and paid for."¹³ This footnote appears to contradict Enforcement's assertion that PJM was unable to ask Shell about GreenHat's assertions. I would like to hear more about the significance of this conversation between Kolkmann and PJM, and also would like to know more about exactly what Kolkmann told PJM.¹⁴

20 Further, I would note that the Staff Report does not assert that PJM in fact was unaware of Shell's position that it did not owe any additional money under its first two agreements with GreenHat. Instead, Enforcement alleges only that GreenHat made false statements to PJM. Enforcement takes the position that GreenHat's false statements alone constitute manipulation that violates the anti-manipulation provisions of the FPA and the Commission's Anti-Manipulation rule, even if PJM did not rely on those false statements. I would like to hear GreenHat's views on the significance of Kolkmann's interview statement in light of this limitation on allegations in the Staff Report.

¹³ The Staff Report discusses the Kolkmann interview again at pages 99-101.

¹⁴ There is no citation in the Staff Report to any document in the record detailing or summarizing the contents of this interview. My understanding is that the Commission is not in possession of any notes regarding this interview. I for one would be receptive to a motion by GreenHat requesting the issuance of a subpoena to Mr. Kolkmann to discover more details about the interview.

21 In addition to my concerns about the substance of Enforcement's allegations regarding the Pledge Agreement, I have a procedural concern as well. Ultimately, in order to evaluate Enforcement's allegation, we will need to evaluate the validity of GreenHat's contract claim that Shell owed it \$62 million. If in fact Shell did have such a contractual obligation, then we could not find anything improper about GreenHat's offer to pledge its rights to the \$62 million owed by Shell as collateral. However, GreenHat is pursuing its contract claim in Texas state court and, only last month, the Commission reaffirmed that it will not address the merits of that claim but instead is deferring to the Texas courts.¹⁵ I agree with Enforcement that we nevertheless must evaluate GreenHat's claim in this proceeding pursuant to our authority under the FPA to evaluate allegations of manipulation.¹⁶ However, I would like for GreenHat and Enforcement to address whether we should reach a decision on this question *before* the Texas court's decision and, if so, how we should take the Texas proceeding into consideration.

III. Allegation that GreenHat Rigged PJM's Long Term FTR Auctions by Repurchasing FTRs it Had Just Sold to Shell to Drive Up the Amount of Cash it Would Obtain from Shell

22 Enforcement's third alleged violation is that GreenHat rigged PJM FTR auctions by using inside information to buy large volumes of FTRs it had just sold to Shell.¹⁷ If this allegation is true, it would clearly represent an independent ground for finding that GreenHat engaged in manipulation. However, I am concerned about what the record shows as to whether GreenHat actually had any inside information and whether its bids into the FTR auctions rigged the results of those auctions.

23 The Staff Report relies on the fact that GreenHat knew the terms of its transactions with Shell, but my understanding is that GreenHat did not have any other information as to whether Shell would offer any FTRs into a particular auction and, if so, the quantity of FTRs Shell would offer or the prices at which Shell would offer. I would like to hear from the parties whether my understanding is correct and, if so, whether the information that GreenHat had constitutes the type of inside information that cannot be used in bidding on FTRs on the same paths as the FTRs GreenHat sold to Shell. It is reasonable to conclude that GreenHat could make inferences about Shell's possible offers as a consequence of its agreements with Shell, but does that constitute the unlawful use of inside information?

¹⁵ *Shell Energy*, 175 FERC ¶ 61,025 at P 36 ("The Commission's interpretation of the PJM Tariff in this declaratory order proceeding does not interfere with or prejudice the outcome of GreenHat's litigation in Texas state court.").

¹⁶ Staff Report at 68 n.202

¹⁷ *Id.* at 103-04.

24 I also would like to hear the parties' views as to scope of permissible FTR trades by GreenHat if the information regarding the transactions between GreenHat and Shell did constitute inside information. Should possession of such information have barred GreenHat from bidding to purchase any quantity of FTRs on the same paths as the FTRs it sold to Shell at any price, or would only certain types of bids constitute manipulation?

25 Further, it is not clear to me whether GreenHat's agreements with Shell required Shell to sell the FTRs into any particular auction or that Shell's obligation to pay GreenHat for the FTRs was contingent on the FTRs clearing in the FTR auctions. If the agreements did not obligate Shell to sell FTRs into any auction, it seems less likely that GreenHat could know with any certainty how Shell would offer into the auctions and would not have the incentive to bid for those paths simply to ensure payment from Shell. I would like to hear from the parties on this issue.

26 In addition, although the Staff Report details the FTRs that GreenHat purchased in the same auctions where Shell sold, the Staff Report provides no details on the extent to which GreenHat's bids did not clear, or did not clear in such a way as to set the price paid for the FTRs it purchased. This information is crucial to Enforcement's allegation because if GreenHat's bids did not generally set the market price for the FTRs sold by Shell, those bids could not have rigged the market price. I would like to see more information and analysis on the question of whether and how GreenHat's bids affected FTR prices in ways that increased the payments GreenHat received from Shell, and/or injected false information into the market.¹⁸

IV. Enforcement's Allegation that GreenHat Violated the PJM Tariff and Operating Agreement

27 Enforcement's final allegation is that GreenHat violated the PJM Tariff and Operating Agreement in two respects: (1) In defaulting on its obligations to settle its FTRs GreenHat violated tariff provisions obligating it to pay all bills arising in connection with the Operating Agreement; and (2) GreenHat made false certifications as to its valuations and risk management practices, and to the accuracy of its financial statements submitted to PJM.¹⁹

¹⁸ In response to GreenHat's claim that its bids were not public, Enforcement asserts that "as courts have held under both the FPA and the securities laws, bids and offers in auctions can be deceptive even though they are not visible to other market participants, if they are not based on market fundamentals." *Id.* at 104. Even if this is true as a general matter, I would like for Enforcement to explain how those cases could support the conclusion that GreenHat's nonpublic bids injected false information into the market if they did not clear or set the price.

¹⁹ *Id.* at 77-78.

28 With respect to the first alleged tariff violation, I am uncertain whether a payment default constitutes a tariff violation that can result in liability for civil penalties. Has the Commission ever assessed civil penalties as a consequence of a payment default? I would be interested in seeing a discussion of the precedent and the policy considerations involved.

29 With respect to the second alleged violation, I am interested in hearing from the parties whether GreenHat can be found to have submitted false certifications if: (1) GreenHat clearly stated the grounds for its certifications; and (2) the certifications were all based on the same FTR valuation methodology that PJM itself used.

30 I recognize that there are many other issues related to Enforcement's allegations and GreenHat's defenses with respect to each of the above allegations that I have not identified here. I am interested in hearing more from GreenHat and Enforcement on these issues as well. Only after considering these further submissions will I be able to reach a conclusion on the validity of Enforcement's allegations.

V. Joint and Several Liability for the Kittell Estate

31 Finally, although I understand that it is the Commission's typical practice to impose joint and several liability when it seeks disgorgement from individuals, I wonder whether joint and several liability for the Kittell Estate is appropriate in this proceeding to the extent that the Commission determines that violations occurred and disgorgement is appropriate. I request that the parties address this question in their submissions.

For these reasons, I respectfully concur.

James P. Danly
Commissioner