

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Up-to Congestion Transactions)

Docket No. IN10-5-000

**WRITTEN SUBMISSION TO COMMISSION INVESTIGATION STAFF
ON BEHALF OF POWHATAN ENERGY FUND LLC**

William M. McSwain
Tara S. Sarosiek
DRINKER BIDDLE & REATH LLP
One Logan Square, Suite 2000
Philadelphia, PA 19103
Phone: 215-988-2775
Fax: 215-988-2757
Email: william.mcswain@dbr.com
Email: tara.sarosiek@dbr.com

Earle H. O'Donnell
WHITE & CASE LLP
701 Thirteenth Street, NW
Washington, DC 20005
Phone: 202-626-6497
Fax: 202-639-9355
Email: eodonnell@whitecase.com

TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
II. ANALYSIS.....	2
A. Making An “Uneconomical” Trade Absent A Rebate Is Just Fine – And It Happens All The Time.....	4
B. “Wash Trade” Is Not A Magic Phrase.....	7
1. The Commission Is Wrong On The Law: Even Assuming That The Up-to Congestion Transactions “Look” Like Wash Trades, Powhatan Did Not Act With The Requisite Scierter Because The Transactions Had A Legitimate Economic Purpose	7
2. The Commission Is Also Wrong On The Facts: The Up-to Congestion Transactions Were Not “Wash Trades,” Anyway	14
C. The Case That Most Closely Resembles The Commission’s Theory Here Was Decided Against The Regulators	18
D. The Third Circuit’s Unpublished Decision In <i>Amanat</i> Changes None Of This.	22
E. Any Action Against Powhatan Would Never Survive Due Process Scrutiny.....	27
F. Bad Facts Would Make Bad Law For The Commission.	32
III. CONCLUSION.....	35

I. INTRODUCTION

This is a case that the Commission cannot win, involving conduct that is perfectly legal. At issue is whether some of the up-to congestion transactions (the “Up-to Congestion Transactions” or “Up-to Congestion Trades”) executed on behalf of Powhatan Energy Fund, LLC (“Powhatan”) by Dr. Houlian Chen that were motivated in part by the collection of transmission loss credits (“TLCs”), constituted market manipulation. As a matter of established law, as well as common sense, the answer is no.

First, as a practical matter, analogous trading occurs every day in the U.S. equities markets. Such trading, aimed at profiting from the collection of market liquidity rebates, accounts for well more than half of all trading volume on U.S. exchanges. In short, there is absolutely nothing wrong with trading that is motivated in part by collection of a rebate. For that matter, there is not even anything wrong with trading that is solely motivated by collection of a rebate.

Second, the Up-to Congestion Transactions do not fit within any conceivable theory of market manipulation as set forth in Rule 10b-5 case law. There is a good reason for that: each of the Up-to Congestion Transactions had a legitimate economic purpose. Not only does this preclude an inference of scienter, which is fatal to any claim of market manipulation, but also it belies any suggestion that the Trades at issue were “wash trades.”

Third, the case that most closely resembles the Commission’s theory here, an NASD enforcement action against investor Peter Kellogg, was decided *against* the regulator. Again, with good reason: Mr. Kellogg’s trades were conducted for a legitimate business purpose. At no point after *Kellogg* has any regulator attempted to bring such a market manipulation claim into court.

Fourth, the Third Circuit’s unpublished decision in *Amanat v. SEC*, 269 F. App’x 217 (3d Cir. 2008), does not support the Commission’s position here. Mr. Amanat, unlike Powhatan, had no legitimate economic purpose for his individual trades. Moreover, his conduct contained several of the classic hallmarks of market manipulation, including intentional wash trading, intentional deception and material misrepresentations – none of which is present here.

Fifth, any enforcement action against Powhatan would violate due process because Powhatan had no notice that trading motivated in part by the collection of transmission loss credits was unlawful. In fact, having practically approved such conduct, it would be entirely disingenuous for the Commission now to claim that such trading constitutes market manipulation.

Finally, as a practical matter, it would make little sense for the Commission to pursue this investigation any further. The supposed “problem” that prompted this investigation in the first place – trading that is influenced by TLCs – has already been rectified via changes to PJM’s tariff. Moreover, the dollar amounts involved here are small in the big scheme of the Commission’s priorities. But the risk to the Commission of an adverse court ruling is considerable – one that could negatively impact much more important investigations than this one.

For all of these reasons, the Commission should terminate the investigation.

II. ANALYSIS

In order to establish that Powhatan engaged in market manipulation related to the Up-to-Congestion Transactions that Dr. Chen conducted on behalf of Powhatan and his own funds, Heep Fund and CU Fund, in the PJM market from June 1, 2010 to August 3, 2010, the Commission must show that Powhatan: (1) used a fraudulent device, scheme or artifice, made a

material misrepresentation or omission, or engaged in a deceitful or fraudulent act, (2) with the requisite scienter, (3) in connection with a Commission-jurisdictional transaction. *See Prohibition of Energy Mkt. Manipulation*, 114 F.E.R.C. ¶ 61,047 at P 49 (Jan. 19, 2006) (“Order No. 670”) (setting forth the elements of the Commission’s anti-manipulation rule, codified at 18 C.F.R. §1c2(a) (2006)). “Fraud” in the context of manipulation of the energy markets includes “any action, transaction, or conspiracy for the purpose of impairing, obstructing or defeating a well-functioning market” and “is a question of fact that is to be determined by all the circumstances of a case.” *Id.* at P 50.

The Commission has stated that its anti-manipulation rule is modeled after the Securities and Exchange Commission (“SEC”) Rule 10b-5¹ and that the Commission must look to Rule 10b-5 precedent. *Id.* at P 7 (“[T]he Commission has modeled the Final Rule on Rule 10b-5. This approach will benefit entities subject to the new rule because there is a substantial body of precedent applying the comparable language of Rule 10b-5.”); P 30 (“We intend to adapt analogous securities precedents as appropriate to specific facts, circumstances and situations that arise in the energy industry . . . [This] will provide a level of substantial certainty with respect to how the regulations will operate that the Commission is not typically able to provide where a preexisting body of law and precedent is not readily available. The Commission likewise finds that modeling the Final Rule on SEC Rule 10b-5 provides clarity to affected parties similar to the

¹ *See* 17 C.F.R. 240.10b-5 (2005) (“It shall be unlawful for any person, directly or indirectly, by the use of any means or instrumentality of interstate commerce, or of the mails or of any facility of any national securities exchange, (a) To employ any device, scheme, or artifice to defraud, (b) To make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading, or (c) To engage in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person, in connection with the purchase or sale of any security.”)

clarity provided by Congress.”). As set forth below, both SEC precedent and practice make plain that Powhatan did not engage in market manipulation.

A. Making An “Uneconomical” Trade Absent A Rebate Is Just Fine – And It Happens All The Time.

The Division of Investigations Staff appears to be hung up on the idea that there is something inherently manipulative in making a trade that is “uneconomical” absent a rebate – or, in other words, a trade that is motivated by collection of a rebate. Frankly, this idea is nonsense.

Many millions of trades occur in the U.S. equities markets every day that seek to earn a profit from the collection of rebates paid by the markets. Such trading, also known as high-frequency trading (“HFT”), now accounts for more than 50% of all trading volume in the U.S. equities markets. *See* Affidavit of Richard G. Wallace, October 21, 2011 ¶ 33 (“Wallace Affidavit”), attached as Exhibit A. By buying and selling equities within a fraction of a second, a trader employing HFT strategies seeks to take advantage of short-term pricing inefficiencies and to maximize the rebates offered by the market centers, typically a fraction of a penny for each side of the trade. *Id.* ¶¶ 32, 36.

Such rebate capture strategies can yield sizable profits for a high frequency trader – and in many instances, it is the rebate itself that makes the trades economical. *Id.* ¶¶ 36, 38; *see also* Correspondence from M. Narang (Tradeworx, Inc.) to E. Murphy (SEC) dated April 21, 2010 attaching *Tradeworx, Inc. Pub. Commentary On SEC Mkt. Structure Concept Release* at 8 (Apr. 21, 2010) (“Tradeworx Presentation”) (“Most liquid stocks trade at 1-cent bid-ask spreads, but in most cases, 1 cent is not a large enough spread to defray the cost of adverse selection . . . As a result, exchanges offer further inducement for traders to post orders in the form of ‘rebates.’”). In short, absent the rebate revenue, many high frequency trades would never be executed – because the business model for such trades would not be economical. *See* Wallace Affidavit ¶

39. Put another way, high frequency trading is often *motivated* by the collection of rebate revenue.

There is no merit, therefore, to the idea that there is something wrong with making trades that would not have been made absent a rebate. There is no case law anywhere, in any jurisdiction, even suggesting that such a trading strategy is unlawful. Nor are there any statements by the SEC in any form or in any circumstances suggesting that such trading is illegal. Indeed, the SEC is well aware of HFT and the rebate capture strategy. *E.g.*, Securities and Exchange Commission, *Concept Release on Equity Mkt. Structure*, 75 Fed. Reg. 3594, 3607 (Jan. 21, 2010) (codified at 17 C.F.R. Part 242) (“SEC Concept Release”) (discussing HFT strategies and noting that “the primary sources of profits are from earning the spread by buying at the bid and selling at the offer and capturing any liquidity rebates offered by trading centers to liquidity-supplying orders”).²

If there were anything wrong with trading for the purpose of profiting from a rebate and making trades that may otherwise be “uneconomical” but for the rebate revenue, the U.S. equities markets would literally cease to exist in their current form. The application of this principle to the situation here is obvious: if there is nothing wrong with high frequency traders chasing a rebate, there was also nothing wrong with Dr. Chen or Powhatan (or anybody else) making trades that were motivated in part by the transmission loss credits.

The Commission might respond by trying to draw a distinction between HFT and

² See also *SEC Concept Release*, 75 Fed. Reg. at 3609 (“For example, are there risk-free trading strategies driven solely by the ability to recoup a rebate that offer little or no utility to the marketplace? Are these strategies more likely when a trading center offers inverted pricing and pays a liquidity rebate that is higher than its access fee for taking liquidity?”) Nowhere in the Release did the SEC suggest that such trading is illegal – because, of course, it is not.

Dr. Chen's trading – perhaps arguing that rebates paid to high frequency traders are paid in a way they were intended to be paid (for providing liquidity) while TLCs paid to Dr. Chen and Powhatan were not intended to be paid as they were. Or, put differently, the Commission might say that HFT provides “value” to the market while Dr. Chen's trading did not. Such proposed distinctions, however, do not withstand even minimal scrutiny.

First, not all HFT provides liquidity or “value” to the market. In cases where a high-frequency trader successfully buys and sells a security at the same price at approximately the same time, no liquidity is added to the market. *See Wallace Affidavit* ¶¶ 41, 42; *see also Tradeworx Presentation*, at 8 (“[S]ome market-makers may be willing to buy and sell at the same price; . . . Such market-makers are said to be operating rebate-capture strategies because their only compensation is the rebate offered by the exchanges for posting orders. In cases where a rebate-capture strategy successfully buys and sells at the same price (thus earning 2 rebates), no real liquidity was added to the market.”). There is, of course, nothing wrong or illegal about high frequency traders collecting rebates even when no liquidity is provided to the market. But the point is that the Commission cannot credibly argue that HFT rebate collection is conceptually “different” from Powhatan's collection of TLCs when we know that high frequency traders routinely collect rebates for trading that does not provide any liquidity or “value” to the market.

More fundamentally, though, Powhatan and Dr. Chen did provide “value” to the market by paying the fixed costs of transmission and other costs of the PJM system for each of the Up-to-Congestion Transactions. In fact, as a virtual trader, Dr. Chen, on behalf of Powhatan, paid those costs even though the Transactions were not actually moving power. Thus, Powhatan was paying costs for a system that it was not even using – or, to put it differently, it was paying for

nothing. In this sense, the transmission loss credits were the *quid pro quo* for paying those costs. And Powhatan always had to pay those costs in order to receive TLCs: unlike the high frequency trader, who can collect a rebate *without* providing any “value” or liquidity to the market, Powhatan was not even eligible to receive TLCs on a trade until it had pre-paid into the system.

In sum, the Commission’s primary theory in this investigation – that the Trades were somehow manipulative because they were “uneconomical” absent the TLC revenue – flies in the face of widely accepted HFT practices that underpin the U.S. equities markets. If that theory ever sees the light of a courtroom, it is going nowhere.

B. “Wash Trade” Is Not A Magic Phrase.

A secondary idea that appears to be motivating the Division of Investigations Staff is that if a trade “looks” like a wash trade, then it is illegal. But simply alleging that conduct “looks” like a wash trade is insufficient to establish market manipulation. Putting aside for a moment that the Up-to Congestion Transactions were not “wash trades” at all, the larger point is that even if they were, it would not matter. This is because the Commission would still have to prove that Powhatan acted with the requisite scienter – which, for the reasons set forth below, it would never be able to do.

1. The Commission Is Wrong On The Law: Even Assuming That The Up-to Congestion Transactions “Look” Like Wash Trades, Powhatan Did Not Act With The Requisite Scienter Because The Transactions Had A Legitimate Economic Purpose.

The Commission’s anti-manipulation rule expressly requires the Commission to establish that the individual or entity it is seeking enforcement against acted with the requisite scienter. *See Order No. 670* at P 49. This requirement is well-established in Rule 10b-5 precedent. In *Ernst & Ernst v. Hochfelder*, 425 U.S. 195 (1976), the United States Supreme Court defined

scienter in the context of a Rule 10b-5 claim to mean “a mental state embracing intent to deceive, manipulate or defraud.” *Id.* at 193 n.12.³ One year later, in discussing the term “manipulation,” the Supreme Court reinforced the scienter requirement in Rule 10b-5 market manipulation actions by noting that the “term [manipulation] refers generally to practices, such as wash sales, matched orders, or rigged prices, *that are intended to mislead investors* by artificially affecting market activity.” *Santa Fe Indus., Inc. v. Green*, 430 U.S. 462, 476 (1977) (emphasis added).⁴ The Court also soon after clarified that the scienter requirement is equally applicable regardless of whether the plaintiff is a private party or an enforcement agency. *Aaron v. SEC*, 446 U.S. 680, 691 (1980) (“[T]he rationale of *Hochfelder* ineluctably leads to the conclusion that scienter is an element of a violation of § 10(b) and Rule 10b-5, regardless of the identity of the plaintiff or the nature of the relief sought.”).

In order to plead and ultimately prove scienter, the Supreme Court has held that facts giving rise to a “strong inference” of scienter must be demonstrated. In *Tellabs, Inc. v. Makor Issues & Rights, Ltd.*, 551 U.S. 308 (2007), the Court explained:

The strength of an inference cannot be decided in a vacuum. The inquiry is inherently comparative: How likely is it that one conclusion, as compared to others, follows from the underlying

³ Although some lower appellate courts have found that scienter also includes “extreme recklessness,” the Supreme Court has yet to rule on this issue. *Matrixx Initiatives, Inc. v. Siracusano*, 563 U.S. ___, 131 S. Ct. 1309, 1323 (2011) (“We have not decided whether recklessness suffices to fulfill the scienter requirement.”) (citing *Tellabs, Inc. v. Makor Issues & Rights, Ltd.*, 551 U.S. 308, 319 n.3 (2007)).

⁴ Based on such precedent, even in cases where the conduct, without a doubt, constituted wash trades or matched orders, courts have concluded that scienter is a separate element that still must be established. *E.g., Rockies Fund, Inc. v. SEC*, 428 F.3d 1088, 1093 (D.C. Cir. 2005) (noting that defendants engaged in wash sales and matched orders but finding that “neither of these devices alone constitutes a securities violation. Section 10(b) (and, accordingly, Rule 10b-5) also requires a showing of intent and materiality.”).

facts? To determine whether the plaintiff has alleged facts that give rise to the requisite . . . scienter, a court must consider plausible, nonculpable explanations for the defendant’s conduct, as well as inferences favoring the plaintiff . . . [T]he inference of scienter must be more than merely ‘reasonable’ or ‘permissible’ – ***it must be cogent and compelling, thus strong in light of other explanations.***

Id. at 323-24 (emphasis added).⁵

Here, Powhatan had a legitimate economic purpose for the Up-to Congestion Transactions: profiting from *each* of the Trades, which included the collection of transmission loss credits. *See, e.g., United States v. Mulheren*, 938 F.2d 364, 368 (2d Cir. 1991) (“When the transaction is effected for an investment purpose, the theory continues, there is no manipulation, even if an increase or diminution in price was a foreseeable consequence of the investment.”); *SEC v. Masri*, 523 F. Supp. 2d 361, 373 (S.D.N.Y. 2007) (“[I]f a transaction would have been conducted for investment purposes or other economic reasons, and regardless of the manipulative purpose, then it can no longer be said that it is ‘artificially’ affecting the price of the security, or injecting inaccurate information into the market, which is the principal concern about manipulative conduct.”). That is the beginning and the end of the scienter analysis: because Powhatan and Dr. Chen had a legitimate economic purpose for their Trades, there is no way that the Commission could ever meet its burden of proving scienter.

⁵ *Tellabs* involved a private plaintiff, but as set forth in *Aaron v. SEC*, the requirement of proving scienter in Rule 10b-5 cases is the same for private litigants and the government. 446 U.S. at 691. Accordingly, the Supreme Court’s articulation of the test for scienter is equally applicable in government enforcement actions. *E.g., SEC v. Boling*, No. 06-1329 (RMC), 2007 WL 2059744, at *4 n.1 (D.D.C. July 13, 2007) (applying the Supreme Court’s instruction in *Tellabs* to “take into account plausible opposing inferences” and to determine whether the inference of scienter was “cogent and at least as compelling as any opposing inference one could draw from the facts alleged” in deciding whether the SEC had adequately pled scienter).

The Commission might respond by arguing that the collection of TLCs is not a “legitimate” economic purpose for the Trades. As an initial matter, it is untrue that the collection of TLCs was the only economic purpose of the Trades. But even if it were true, it still would not matter. Just because the Commission, in hindsight, may not like the Trades at issue, that does not make them illegitimate or illegal. This is because under the then-existing regulatory regime, there was no Commission order or tariff provision prohibiting or limiting the collection of transmission loss credits. To the contrary, the relevant tariff language provided for transmission loss credits to be paid to anyone who incurred transmission costs:

The total Transmission Loss Charges accumulated by the Office of Interconnection in any hour shall be distributed pro-rata to each Network Service User and Transmission Customer in proportion to its ratio shares of the total MWhs of energy delivered to load (net of operating Behind The Meter Generation, but not to be less than zero) in the PJM Region, or the total exports of MWh of energy from the PJM Region . . . , or the total MWh of cleared Up-to Congestion transactions (that paid for transmission service during such hour).

PJM Open Access Transmission Tariff § 5.5 (Third Revised Sheet No. 399C). And because those credits were distributed *automatically* to all purchasers of transmission in PJM, the transmission loss credits became part of the overall pricing incentive for Dr. Chen (and other traders) to consider when entering into up-to congestion trades.

Significantly, the Commission itself has found that the existence of a pricing incentive is evidence of a *lack* of fraudulent intent:

[T]he existence of a pricing incentive is suggestive of the *lack* of a fraudulent device, scheme or artifice, and is indicative instead of market participants responding to existing prices, rather than artificially affecting them.

* * *

Since NYISO itself has identified a clear economic pricing incentive for the transactions, since the market participants agree that they placed the schedules in response to prices, and since the market participants did in fact make a profit on their Path 1 and Path 5 trades, there seems no reason to doubt that their motive was simply one of responding to the price signals in the market.

Federal Energy Regulatory Commission, *Non-Public Investigation into Allegations of Mkt. Manipulation in Connection with Lake Erie Loop Flows: Enforcement Staff Report*, at 22, 24 (June 10, 2009) (emphasis in original), adopted by the Commission on July 16, 2009. *See N.Y. Indep. Sys. Operator, Inc.*, Order Authorizing Pub. Disclosure of Enforcement Staff Report & Directing the Filing of an Additional Report, 128 F.E.R.C. ¶ 61,049 at P 1 (July 16, 2009).

Furthermore, profit-driven actions in response to similar pricing incentives in other contexts are common and not considered fraud. For example, in *Idaho Wind Partners 1, LLC*, Order Dismissing Without Prejudice Petition for Declaratory Order, 134 F.E.R.C. ¶ 61,217 (Mar. 17, 2011), the Commission found that offsetting energy transactions entered into for the sole purpose of accruing benefits associated with Renewable Energy Credits (“RECs”), which like TLCs are a credit revenue stream, did not constitute market manipulation. There, the sale and repurchase of energy cancelled each other out completely. The transactions thus served *no* purpose other than obtaining the value of the RECs. *Id.* at PP 6, 24. Likewise, another energy market credit, the Wind Energy Production Tax Credit (“PTC”) for wind-generated electricity, creates the incentive for wind generators to *lose* money on the sale of electricity by offering zero or even negative bids into their respective markets in order to capture the PTC. The Commission has acknowledged that certain resources are incentivized to make negative bids in order to gain revenue via PTCs and has never suggested that there is anything fraudulent about this practice. *See Midwest Indep. Transmission Sys. Operator, Inc.*, Order Conditionally Accepting in Part and

Rejecting in Part Tariff Filing & Requiring Compliance Filings, 134 F.E.R.C. ¶ 61,141 at P 83 (Feb. 28, 2011).

By way of further example, the SEC has implicitly recognized that the practice of “tape shredding” – whereby traders intentionally break orders into smaller pieces in order to collect more rebates – is not market manipulation, but merely an example of traders responding to a pricing incentive. *See* Wallace Affidavit ¶¶ 25, 28, 30. The SEC’s response to this behavior was to encourage the market exchanges to adopt new rules in order to prevent the practice from continuing. *Id.* ¶ 26. The SEC never suggested that this practice was illegal or in violation of any securities laws or rules. *Id.* ¶¶ 28, 30. Similarly, the SEC has implicitly approved the practice of “ex-dividend arbitrage” or “dividend play trading” in the options markets, whereby traders make offsetting trades with no risk that are motivated solely by the collection of dividends. *Id.* ¶¶ 44, 45, 48-50. Such trading creates artificial trading volume, without adding any liquidity to the market, and yet the SEC has never suggested that such trading is illegal. *Id.* ¶¶ 45, 48.

In any event, it is worth noting that the collection of TLCs was not the only economic purpose of the Trades. Rather, Dr. Chen employed a “spread trading” strategy in which he hoped to hit it big if one of the legs of his Trades did not clear. Consistent with this strategy, he frequently entered into Trades which did not have the maximum congestion limit, thereby intentionally increasing the possibility that one of the legs would be rejected – exposing Dr. Chen and Powhatan to a greater possibility of profit (as well as a corresponding greater risk of

loss). *Id.* ¶ 56.⁶ At the time Dr. Chen submitted each directional Up-to Congestion bid, of course he could not know whether both legs would be accepted. The fact that both legs of any particular Trade may have been accepted during the June-August 2010 time period certainly is not evidence of fraudulent intent. As the Supreme Court has put it, a strong inference of scienter cannot be established by alleging “fraud by hindsight.” *Tellabs*, 551 U.S. at 320; *see also Shields v. Citytrust Bancorp., Inc.*, 25 F.3d 1124, 1129 (2d Cir. 1994) (rejecting “the legitimacy of alleging fraud by hindsight”) (internal quotations and citations omitted).

Finally, the Up-to Congestion Transactions were conducted in good faith in an open and transparent manner – which is entirely inconsistent with any sort of fraudulent intent. Dr. Chen accurately entered the information necessary to effect the Transactions, which were carried out openly: he did not attempt to hide, conceal or misrepresent anything to anyone. Dr. Chen and Kevin Gates of Powhatan believed (and continue to believe) that the Up-to Congestion Transactions were bona fide. Notably, Mr. Gates is prepared, even eager, to walk into court and testify to this. Neither Dr. Chen nor Mr. Gates has any disciplinary history and both of these gentlemen are scrupulously law-abiding. There is simply *no* evidence that Dr. Chen or Mr. Gates knew that the Trades were harmful to the market in any way or illegal in any way (which, of course, they were not).⁷ *Compare Amaranth Advisors LLC*, Order to Show Cause and Notice

⁶ For a more detailed discussion of Dr. Chen’s spread trading strategy, as well as a discussion of the nature of up-to congestion transactions in the PJM market, *see* Affidavit of Dr. Richard D. Tabors, Ph.D, attached as Exhibit B.

⁷ The Division of Investigations Staff has made much of a Powhatan presentation somewhat casually entitled “Rampin’ up with Alan Chen,” dated March 19, 2010. However, this presentation simply reflected Powhatan’s logical response of increasing its trading because of the new transmission loss credit pricing incentives. No manipulative intent can be ascribed to this presentation.

of Proposed Penalties, 120 F.E.R.C. ¶ 61,085 at PP 64-75 (July 26, 2007) (demonstrating Amaranth Advisors' manipulative intent through numerous text messages between head Amaranth trader Brian Hunter and his 'execution' trader Matthew Donahue that clearly laid out the plan to manipulate the settlement price of NYMEX crude oil futures to benefit Amaranth's related swap positions).

In short, there is no evidence that Powhatan acted with any inference of scienter, much less the required strong inference of scienter. For this reason alone, any market manipulation claim against Powhatan would fail.

2. The Commission Is Also Wrong On The Facts: The Up-to Congestion Transactions Were Not "Wash Trades," Anyway.

As the foregoing explained, the Commission is wrong on the law: even if the Trades could be considered "wash trades," the Commission would still lose this case because market manipulation requires a showing of scienter – something that the Commission could never demonstrate. Besides being wrong on the law, the Commission is also wrong on the facts because the Trades at issue were not "wash trades" at all.

A "wash trade" must be pleaded with particularity. In *ATSI Communications, Inc. v. Shaar Fund, Ltd.*, 493 F.3d 87 (2d Cir. 2007), in support of its allegation of market manipulation, the plaintiff rested, in part, upon an inference of manipulation based on records showing that trading volume in its stock increased over the period at issue, but the percentage of trading volume that settled decreased. *Id.* at 104. The plaintiff claimed that the "only plausible explanation [was] that the trades did not result in any change in beneficial ownership, indicating wash trades, matched trades, phantom shares, and other manipulative trading." *Id.* (internal quotations omitted). However, the Second Circuit found that this inference was "too speculative" because "[n]owhere d[id] ATSI particularly allege what the defendants did –

beyond simply mentioning common types of manipulative activity – or state how this activity affected the market in ATSI’s stock.” *Id.*

Here, in its August 18, 2010 tariff filing, PJM alleged that the Up-to Congestion Transactions “were inappropriate because they were wash trades that cancelled each other out, and therefore provided no economic benefit to the market, and provided no economic benefit or risk to the participants involved beyond improperly inflating these participants’ share of the loss surplus allocation.” PJM August 18, 2010 Tariff Filing at 6. This is the very sort of “speculative” allegation that has been ruled insufficient in establishing an inference of anything. *E.g., ATSI*, 493 F.3d at 104.

More importantly, there is no factual support whatsoever for PJM’s conclusory allegation that the Up-to Congestion Transactions constituted “wash trades.” By definition, “wash trades” make no money.⁸ *E.g., Hochfelder*, 425 U.S. at 205 n.25 (defining “wash sales” as “transactions involving no change in beneficial ownership”); Federal Energy Regulatory Commission, *Final Report on Price Manipulation in Western Mkts.: Fact Finding Investigation of Potential Manipulation of Electric and Natural Gas Prices*, at VII-1 (March 2003) (noting that wash trades “expose the parties to no monetary risk and serve no legitimate business purpose”). That is, the trades themselves are a nullity. *E.g., In re Sumitomo Copper Litig.*, 182 F.R.D. 85, 96 n.15 (S.D.N.Y. 1998) (“Wash trades – the execution of purchases and sales whose combined financial result is close to or equal to zero – are a form of ‘fictitious trading’ that negate price competition and amount to an ‘intentional creation of a nullity.’”) (citation omitted); *see also SEC v. Colonial*

⁸ Technically speaking, a wash trade actually *loses* money because while the trade itself is a sham with no genuine change in beneficial ownership, the trader still has to pay the transaction costs involved in making the trade. *See Wallace Affidavit* ¶ 54.

Inv. Mgmt. LLC, 659 F. Supp. 2d 467, 473 (S.D.N.Y. 2009) (“Where the transaction is structured such there is no legitimate economic purpose or substance to the contemporaneous purchase and sale, no genuine change in beneficial ownership, and/or little or no market risk, that transaction may be a sham transaction”), *aff’d*, 381 F. App’x 27 (2d Cir. 2010).

Here, the Up-to Congestion Transactions almost always made money when the TLC revenue was taken into account. Not only did the Transactions make money, but they involved a significant amount of risk. For example, there was the risk that the fixed costs of the Up-to Congestion Transactions could exceed the transmission loss credits, which in fact turned out to be the case on several days during the summer of 2010. (The amount of the credits was unknown, of course, at the time the Transactions were executed.) Furthermore, if one of the legs of the Transaction were not accepted, Powhatan could either make or lose significant sums of money. “Wash trades” simply are not structured like this – and there is not a single decision by a court or an enforcement agency anywhere in the country that suggests that the definition of “wash trades” could be contorted to fit the facts of this case. *See Wallace Affidavit* ¶¶ 53, 54 (discussing the hallmarks of wash trading).

In response to pricing incentives, Dr. Chen increased the volume of the Up-to Congestion Transactions on behalf of Powhatan beginning in May 2010. However, there is no evidence that he or Powhatan intended for this to move prices in the market in order to benefit some “other” position or to achieve some “external” purpose, characteristic of “wash trade” type behavior. *See, e.g., Markowski v. SEC*, 274 F.3d 525 (D.C. Cir. 2002) (finding defendants engaged in market manipulation by increasing their trading volumes in order to artificially affect the price of a security for an “external purpose” of benefiting other positions they owned); *Brian Hunter*, Order Affirming Initial Decision & Ordering Payment of Civil Penalty, 135 F.E.R.C. ¶ 61,054 at

P 32 (Apr. 21, 2011) (concluding that Hunter engaged in market manipulation by selling off high volumes of NG Futures Contracts at the end of the day, specifically aimed at lowering the price of those futures contracts in order to benefit his positions on other trading platforms). In fact, the Up-to Congestion Transactions did not adversely impact the PJM energy market at all.

Significantly, the absence of deceptive or manipulative conduct (like “wash trading”) is fatal to a claim of market manipulation. *E.g.*, *GFL Advantage Fund, Ltd. v. Colkitt*, 272 F.3d 189, 211 (3d Cir. 2001) (finding that in order to state a claim of market manipulation, the plaintiff must show that the defendant engaged in “deceptive behavior . . . that either injected inaccurate information into the marketplace or created artificial demand for the securities.”); *ATSI*, 493 F.3d at 101 (relying on *Colkitt* and noting that “[t]o be actionable as a manipulative act, [the conduct] must be willfully combined with something more to create a false impression of how market participants value a security.”). Courts that have allowed market manipulation claims to proceed based on manipulative intent alone have done so *only* where the transactions were conducted “with the intent of artificially affecting the price of the security” and where no legitimate business purpose existed. *E.g.*, *Markowski*, 274 F.3d at 528 (“Liability for manipulation wholly independent of fictitious transactions in fact raises interesting questions, [and] . . . [l]egality would thus depend entirely on whether the investor’s intent was ‘an investment purpose’ or ‘solely to affect the price of [the] security.’”); *Masri*, 523 F. Supp. 2d at 372-73 (explaining that the existence of a legitimate economic purpose precludes a finding of market manipulation because “in order to impose liability for an open market transaction, the SEC must prove that *but for* the manipulative intent, the defendant would not have conducted the transaction.”) (emphasis in original). For the reasons already set forth above, that is not the case here: Powhatan had a legitimate economic purpose for conducting the Up-to Congestion

Transactions and there is no evidence that Powhatan intended to (or did in fact) adversely affect prices in the PJM market.

In sum, the Commission could never demonstrate that the Trades at issue were “wash trades,” and even if it could, it would still lose this case because it could never prove that Powhatan acted with the requisite scienter. That should be enough to dissuade the Commission from pursuing this investigation any further. But if the Commission still is not convinced, the *Kellogg* case, discussed below, provides a useful cautionary tale.

C. The Case That Most Closely Resembles The Commission’s Theory Here Was Decided Against The Regulators.

Securities regulators tried once before to do what the Commission is contemplating here. They failed. The Commission should not repeat that mistake.

In 2004, a unanimous three-member panel of the National Association of Securities Dealers (“NASD,” now the Financial Industry Regulatory Authority, or “FINRA”) ruled in favor of Peter Kellogg and against the Department of Market Regulation on claims that Mr. Kellogg directed fraudulent wash and matched trades.⁹ As a factual matter, there was no question that Mr. Kellogg indeed had engaged in matched trades with no change in beneficial ownership. But it did not matter because he had an economic motive for his trades – and that motive was simply to pay less taxes. If shielding money from the federal government is a “legitimate” enough economic motive to save an obvious matched trade scheme from securities liability, then surely the Up-to Congestion Trades here were legal.

⁹ The NASD panel in *Kellogg* was statutorily required to interpret and follow SEC law in issuing its decision. *E.g., Nat’l Ass’n of Sec. Dealers, Inc. v. SEC*, 431 F.3d 803, 806-07 (D.C. Cir. 2005) (explaining SEC oversight of the NASD).

The facts in *Kellogg* are worth a closer look. In early 2001, Mr. Kellogg invested hundreds of millions of dollars in IAT, an insurance company which he had founded. *Dep't of Mkt. Regulation v. Kellogg*, No. CMS030257, Disciplinary Proceeding, at 2-3 (Aug. 6, 2004) (“Hearing Panel Decision”), available at 2004 NASD Discip. LEXIS 64, attached as Exhibit C. At that time, IAT was tax-exempt. *Id.* at 3. However, Mr. Kellogg expected that IAT would lose its tax-exempt status that coming November. IAT owned 100% of MMK, a Bermuda insurance company. At some point, IAT also had bought a controlling interest in MCM, a Delaware insurance company with \$100 million in operating loss carry-forwards. MCM owned 100% of EH, a Delaware investment holding company. *Id.*

Mr. Kellogg was a significant investor in Thoratec Corporation (“THOR”). As of August 1, 2001, IAT held 2,033,500 shares of THOR and EH held 700,000 shares of THOR. *Id.* at 3-4. EH’s shares of THOR had been purchased in February 2001 at just under \$8.70. By August 2001, the price of THOR had risen to around \$17, giving EH an unrealized gain on its shares. *Id.* at 5. Accordingly, as a wholly-owned subsidiary of MCM, EH could “offset any realized taxable capital gains on THOR by using MCM’s loss carry-forwards before they expired.” *Id.* As a long-term investor in THOR, Mr. Kellogg did not want to lose control of EH’s shares. Thus, on August 1, Mr. Kellogg put in a sell order on behalf of EH for 700,000 shares of THOR; at the same time, he placed “an identical buy order on behalf of IAT, expecting the two orders would be crossed.” *Id.* Trading records revealed that the trades were executed at \$18 per share and represented a hefty 54% of the trading volume in THOR that day. Six days later, on August 7, Mr. Kellogg placed a sell order on behalf of IAT for 1,000,000 shares of THOR. “[T]hat same day, he placed an identical buy order on behalf of EH.” *Id.* The trades were executed at \$17.50 and constituted around 70% of the trading volume in THOR. As a result of this trade, “IAT was

able to realize gains on its investments in THOR before its tax exemption expired in November 2001.” *Id.*

On August 9, Mr. Kellogg placed another sell order on behalf of IAT for 1,000,000 shares of THOR. “At the same time, he placed two buy orders for THOR, each for 500,000 shares,” one in a personal account and the other on behalf of MMK. *Id.* at 7. The trades were executed at \$17.12 and represented a whopping 84% of the volume in THOR. “The purpose, again, was to take advantage of IAT’s tax exemption before it expired in November.” *Id.* On August 13, Mr. Kellogg reversed those trades. The trades were executed at \$17.20 and constituted approximately 70% of the trading volume in THOR. Mr. Kellogg conducted the final trades to allow IAT to hold the same number of shares it held prior to August 9 because Mr. Kellogg wanted to remain a long-term investor in THOR. He also avoided margin interest on the 500,000 THOR shares in his own account and in MMK. *Id.*

Thus, Mr. Kellogg engaged in an obvious series of “matched orders.” He placed identical, simultaneous buy and sell orders between his own accounts, thereby precluding any change in the beneficial ownership of those securities. *See* Wallace Affidavit ¶ 58. He did this simply because he wanted to pay less taxes to the government. Based on those facts – which are far worse than any conceivable view of the facts here – the Hearing Panel unanimously concluded that Mr. Kellogg did not engage in market manipulation because he did not possess the requisite scienter.

In making its determination, the Hearing Panel rejected the regulators’ argument – the same or at least substantially similar to the argument that the Commission is making here – that “wash trades” and “matched orders” are *per se* illegal and do not require an independent showing of scienter. *Hearing Panel Decision*, at 8-9. The Panel found that such a position flatly

contradicted the Supreme Court's ruling in *Hochfelder*, as well as subsequent decisions addressing the interplay of Rule 10b-5 and the scienter requirement. *Id.* at 9-14. The Panel concluded that the regulators could not show scienter because "[t]here [was] no evidence that [Mr. Kellogg] had any motive for the trades, other than tax reasons and a desire not to reduce the size of [his company's] holdings of THOR. He had no motive artificially to affect the price of THOR or to induce others to trade the stock." *Id.* at 4-5. The Panel further concluded that Mr. Kellogg's trades were "effected in good faith" and there was "no evidence of any attempt or reason to manipulate the price of th[e] shares, to induce anyone to trade in th[e] shares, or to create the false or misleading appearance of market activity." *Id.* at 11-12. Finally, the Panel also noted that it found Mr. Kellogg's testimony credible that he "engaged in trades that he believed were bona fide, knew that they would be reported to the public, and made no attempt to conceal any aspects of his actions." *Id.* at 15.

The similarities between *Kellogg* and the instant matter are palpable. Like the NASD, the Commission here cannot show scienter because there is no evidence that Dr. Chen or Powhatan had any motive for the Trades at issue, other than to make money on the Trades via collection of TLCs and the possibility of gains if one of the legs did not clear. The Trades were done in good faith; there is no evidence of any attempt to manipulate prices or to induce anyone else to make trades; and Dr. Chen and Powhatan engaged in Trades that they believed were bona fide, knew that the Trades would be reported to the public, and made no attempt to conceal any aspects of their actions.

Kellogg was decided against the regulators for good reason. The regulators' novel theory of market manipulation simply could not be squared with 35 years of Rule 10b-5 case law. Since the *Kellogg* decision was issued in 2004, no regulator has come into court and tried to make the

same type of arguments that NASD/FINRA did in *Kellogg*. The Commission should not be the first.

D. The Third Circuit’s Unpublished Decision In *Amanat* Changes None Of This.

It appears that the Division of Investigations Staff may believe that the unpublished opinion in *Amanat v. SEC*, 269 F. App’x 217 (3d Cir. 2008), provides a basis for a market manipulation claim against Powhatan. As an initial matter, the *Amanat* court showed little enthusiasm for the SEC’s findings, and only affirmed them because of the deferential standard of review. *Id.* at 220 (“Were we permitted to conduct a *de novo* review of the record, we might well reach a different conclusion with respect to certain of the Commission’s findings.”). Moreover, an unpublished opinion like *Amanat* has no precedential weight.¹⁰ In any event, the facts in *Amanat* are so unlike the facts here that the opinion is of no consequence.

In *Amanat*, the Third Circuit affirmed the SEC’s finding that Irfan Amanat, the chief technology officer at MarketXT, an electronic communication network (“ECN”)¹¹ broker-dealer, engaged in a fraudulent scheme to obtain market data rebates from Nasdaq by executing thousands of wash trades and matched orders through an automated trading program that he had designed. The similarities between *Amanat* and the Trades here begin and end with the fact that *Amanat* involved a rebate.

¹⁰ An unpublished decision holds no weight in the Third Circuit. *See* 3d Cir. I.O.P. 5.7 (“The court by tradition does not cite to its not precedential opinions as authority. Such opinions are not regarded as precedents that bind the court because they do not circulate to the full court before filing.”). The panel echoed those limitations in their introduction to the opinion. *Amanat*, 269 F. App’x at 218 (“Because we write *only for the parties*, familiarity with the facts is presumed . . .”) (emphasis added).

¹¹ An ECN is “an electronic trading system that automatically matches buy and sell orders at specified prices.” *In the Matter of Irfan Mohammed Amanat*, No. 3-11813, 2007 SEC LEXIS 2558, at *3 n.2 (Nov. 3, 2007).

In late 2001, Amanat learned that Nasdaq had instituted a rebate program to share with NASD members part of the revenue it received for selling transaction data, provided that the members met a minimum threshold of qualifying trades during the financial quarter. *In the Matter of Irfan Mohammed Amanat*, No. 3-11813, 2007 SEC LEXIS 2558, at *7 (Nov. 3, 2007) (“SEC Opinion”). MarketXT was eligible to participate in the program as an NASD member. Amanat “was aware that MarketXT had ‘cash flow’ problems” so he decided to try to qualify MarketXT for the rebate program for the March 2002 quarter. *Id.* at *8. However, by mid-March, MarketXT was not on pace to meet the minimum threshold requirement of qualifying trades. *Id.* at *8-9 (“On March 11, 2002, Amanat heard from Nasdaq that, with three weeks left in the quarter, the firm was averaging only forty-nine qualifying trades per day, far less than the required daily average of five hundred trades.”).

Recognizing that MarketXT would have to generate an enormous number of trades to qualify, Amanat enhanced an existing computer program (“RLevi2”) to automatically send buy and sell market orders for the same number of shares of the same security within “milliseconds” at “regular, timed intervals.” *Id.* at *11-12. Amanat executed the trades through two accounts at Momentum, a broker-dealer affiliated with MarketXT. *Id.* at *14. Amanat programmed RLevi2 to “cover[] every purchase order with a sell order to ensure that his position remained flat.” *Id.* at *12. Amanat testified that he could also “shorten the time interval between buy and sell pairs of orders, thereby increasing the number of trades executed.” *Id.* Between March 25 and March 27, 2002, Amanat ran RLevi2 in an attempt to meet the rebate program threshold. In doing so, he generated thousands of wash trades. *Id.* at *24-25 (“The trading data reveal[ed] that a total of 20,483 trades in Tape B securities were effected on MarketXT between March 25 and 27, 2002. Of those trades, seventy percent or over 14,000 of them were Amanat’s wash and matched trades

. . .”). Because of those wash trades, executed through the two accounts at Momentum, Amanat was able to meet the rebate program minimum volume threshold and qualify MarketXT for the rebates. *Id.* at *25. Later that June, MarketXT received “nearly \$50,000” in rebates from Nasdaq. *Id.*

Most importantly, unlike Powhatan or Dr. Chen, Amanat acted with scienter because his individual transactions had no legitimate economic purpose. *None* of Amanat’s individual trades made money (or were intended to make money) or had any value at all. *Id.* at *27 n.28 (“Apart from the rebates, Amanat did not make any profits on his trading between March 25 and 27, 2002, using the RLevi2 program.”). And Amanat never intended to profit from his trades: rather, he made his trades hoping to make money *later* on account of the artificial volume that he had created. This constitutes classic manipulative conduct. *See* Wallace Affidavit ¶ 54.

Besides the absence of a legitimate economic purpose, many of the other traditional hallmarks of manipulation are present in the *Amanat* case. None of these is present in the instant matter.

First, Amanat’s transactions undeniably constituted wash trades. Amanat even admitted this. *SEC Opinion*, 2007 SEC LEXIS 2558, at *16 (“Amanat admitted that the 1,696 trades in DIAs were ‘wash trades.’”); *id.* at *39 (“Amanat [did] not dispute[] that his wash and matched trades involved no change in beneficial ownership.”). Moreover, Amanat’s own expert testified that “the element of risk involved in [Amanat’s] trades was ‘close to de minimis.’” *Id.* at *16. Consistent with the concept of wash trading, Amanat conducted his trades in accounts at one broker-dealer (Momentum) for the purpose of providing a subsequent benefit to *another* broker-dealer (MarketXT) from the artificial volume generated by his trades. In other words, Amanat’s

trades at Momentum were part of an artifice to make money later in some other fashion – namely, via rebate revenue to MarketXT.

Second, there was evidence that Amanat knew that what he was doing was wrong. He intentionally conducted wash trades for the purpose of benefiting later from their artificial volume. *Id.* at *13 (acknowledging that he “was familiar with the term ‘wash trade’” and “knew that [it] was illegal, . . . [but] [n]onetheless . . . admitted that he did not program RLevi2 to prevent wash trading, although he could have done so.”); *id.* at *18 (“Several people informed Amanat on March 25 that Nigito [a fellow trader] had accused him of ‘painting the tape.’ Amanat acknowledged at the hearing that he ‘understood [that] ‘painting the tape’ was the term used when people think you are trying to manipulate the market.’ However, he took no steps to determine if his trading violated any legal or regulatory requirements.”); *id.* at *20 (“After two days of running RLevi2 . . . Amanat was still thousands of trades short of the 18,000 trades needed to qualify for rebates. He decided to decrease again the number of seconds between his paired market orders. He also adjusted the program so that each buy order preceded a sell order by seven hundred milliseconds.”).

Third, during his communications with Nasdaq at the end of the quarter about obtaining the rebates, Amanat intentionally concealed the fact that he had conducted wash trades. *Id.* at *23-24 (“On March 28, 2002, the day after he was told by Tradescape compliance and supervisory personnel that his trading was wrong, Amanat sent an e-mail to Nasdaq inquiring about rebates for his trades. He asked, ‘[C]ould you send me the list of trades we’ve done on [T]ape A and B, and tell me if we [MarketXT] qualified (crossing my fingers here!) Thanks!’ Amanat did not reveal to Nasdaq that he had been on both sides of his trades, or that the firm had told him that his trading must stop.”). This was a material misrepresentation or omission

because Amanat “caused Nasdaq to believe that MarketXT had reached the trading threshold required to qualify for rebates . . . [which] triggered Nasdaq’s payment to MarketXT of rebates for all of its reported trades, both legitimate and illegitimate.” *Id.* at *29.

Fourth, Amanat received the rebates for nothing. The trades that qualified him for the rebates were fictitious. And because they were fictitious, he was not entitled to the rebates, and thus, in a very real sense, he took rebates away from other market participants. *Id.* (“Amanat’s trades through MarketXT caused Nasdaq to receive more than its proper share of market data revenue, thereby defrauding other CTA participants.”). Powhatan, on the other hand, did not take transmission loss credits away from any other PJM member because Powhatan was entitled to the transmission loss credits based on its payment of the transmission costs and other fixed costs of the system – and the Commission itself had previously found that no entity was entitled to receive any particular amount of credits. *Black Oak Energy, LLC, et al. v. PJM Interconnection, LLC*, Order Denying Reh’g in Part & Granting Reh’g in Part, 125 F.E.R.C. ¶ 61,042 at P 12 (Oct. 6, 2008) (“[T]he Commission reiterated that no party is entitled to receive any particular amounts through disbursement [of the credit that inevitably results from using the marginal line loss methodology], since the price each is paying (based on marginal line losses) is the correct marginal cost for the energy each is purchasing.”) (citing *Black Oak Energy*, Order Denying Complaint, 122 F.E.R.C. ¶ 61,208 at P 46 (Mar. 6, 2008)).

Finally, Amanat’s wash trading injected artificial information into the market. More specifically, Amanat caused Nasdaq to believe that MarketXT had reached the trading threshold required to qualify for rebates when in fact the majority of MarketXT’s trades were illegitimate. *SEC Opinion*, 2007 SEC LEXIS 2558, at *29. That, too, is classic manipulative behavior. *See Wallace Affidavit* ¶ 51.

E. Any Action Against Powhatan Would Never Survive Due Process Scrutiny.

As if the foregoing were not enough, there is an additional, independent reason why the Commission should not pursue this investigation any further. Even if the Commission could somehow overcome all the legal and factual hurdles identified above, any action against Powhatan or Dr. Chen would never survive due process scrutiny.

The Due Process Clause of the Fourteenth Amendment requires that “laws give the person of ordinary intelligence a reasonable opportunity to know what is prohibited.” *Grayned v. City of Rockford*, 408 U.S. 104, 108 (1972). Due process “incorporates notions of fair notice or warning” and “requires legislatures to set reasonably clear guidelines for law enforcement officials and triers of fact in order to prevent ‘arbitrary and discriminatory enforcement.’” *Smith v. Goguen*, 415 U.S. 566, 572-73 (1974) (citations omitted).

Here, Powhatan was not on reasonable notice that executing a trading strategy motivated in part by the collection of TLCs was prohibited. No express PJM tariff provision or pronouncement or Commission order ever alerted Powhatan that it was unlawful to trade in this manner. As already set forth above, *see supra* p. 10, the tariff language related to the transmission loss credits expressly provided for the credits to be paid to *anyone* who incurred the transmission costs and other fixed costs of the PJM system. Because the credits were distributed automatically to all up-to congestion traders who paid into the system, the transmission loss credits became part of the overall pricing signal for the up-to congestion transactions. Prior to August 2, 2010, neither Dr. Chen nor Powhatan was ever notified by the Commission or PJM that there could be anything wrong with responding to this pricing incentive.

Significantly, when the allocation of the transmission loss credits was first addressed in the *Black Oak Energy* proceedings – long before the Up-to Congestion Transactions at issue here

– the Commission itself recognized the incentives that the credits would create. For that very reason, the Commission initially denied Black Oak Energy’s complaint which, in part, had asked that virtual traders be allocated credits if PJM required them to pay the costs of the PJM system:

Paying excess loss charges to arbitrageurs also is inconsistent with the concept of arbitrage itself. The benefits of arbitrage are supposed to result from trading acumen in being able to spot divergences between markets. As stated above, arbitrageurs create their own load by the volume of their trades. ***If arbitrageurs can profit from the volume of their trades, they are not reacting only to perceived price differentials in LMP or congestion, and may make trades that would not be profitable based solely on price differentials alone.***

Black Oak Energy, 122 F.E.R.C. ¶ 61,208 at P 51 (emphasis added).

Despite recognizing that allocating the transmission loss credits to up-to congestion traders would create a pricing incentive that the Commission apparently felt was inconsistent with the nature of up-to congestion trades, the Commission reconsidered its denial of Black Oak Energy’s complaint and ultimately approved PJM’s inclusion of up-to congestion traders in the allocation of the credits *with no limitation* other than that the traders pay into the system. *See Black Oak Energy*, Order Accepting Compliance Filing, 128 F.E.R.C. ¶ 61,262 at P 23 (Sept. 17, 2009) (accepting PJM’s revision of the tariff as “just and reasonable”). In short, having predicted that allocating transmission loss credits to up-to congestion virtual traders would result in volume-based transactions aimed at profiting from the collection of those credits, the Commission cannot claim now that the Up-to Congestion Transactions here were fraudulent.

It is possible that the Commission might wish to overlook such internal contradictions. However, the courts would see it differently.

For example, in *Upton v. SEC*, 75 F.3d 92 (2d Cir. 1996), attached as Exhibit D, the U.S. Court of Appeals for the Second Circuit found a due process violation in circumstances in which

the individual there had much more notice than Powhatan had here. In *Upton*, the SEC brought an action against Mr. Upton, the chief financial officer of the brokerage firm FiCS, for failing to supervise an employee who allegedly aided and abetted a violation of SEC Rule 15c3-3(e), which was designed to prevent broker-dealers from using funds or securities on behalf of customers to finance non-customer transactions. Specifically, that rule required brokers to use a “special reserve bank account” and specified that computations to determine the minimum amount to be kept in the account were to be made “weekly, as of the close of the last business day of the week” and the deposit should be made “no later than 1 hour after the opening of banking business on the second following business day.” *Id.* at 93.

At issue, FiCS engaged in a “pay-down” practice where the firm’s money management department “paid down loans collateralized by customer securities just before the weekly Rule 15c3-3(e) computation and replaced them with unsecured loans” at a higher interest rate. *Id.* On the next business day, FiCS paid down the unsecured loans and “reinstated the customer-secured loans.” *Id.* By doing this, FiCS was able to reduce its weekly reserve requirement by “\$20 million on average and by as much as \$40 million in some weeks.” *Id.* at 94.

FiCS engaged in this “pay-down” practice from April 1988 until May 26, 1989. In November 1988, an NYSE examiner contacted an assistant in the money management department and advised that the “pay-down” practice was “questionable and should be stopped.” *Id.* at 95. However, the head of the department ignored the warning. In May 1989, Mr. Upton received a telephone call from SEC staff advising him that the “pay-down” practice “violated the spirit of [the] Rule.” *Id.* Mr. Upton then instructed the firm’s money management department to stop the practice.

On August 23, 1989, the SEC circulated an interpretation memo, in which “for the first time it advised its members and member organizations that the paydown practice might violate Rule 15c3-3(e).” *Id.* Two years later, the SEC instituted public proceedings against Mr. Upton and the head of his money management department, alleging that his firm’s “pay-down” practice from April 1988 until May 1989 violated Rule 15c3-3(e) by resulting in reserve bank account deficiencies averaging \$20 million per week, placing broker-dealers and customers at “substantial risk.” *Id.*

An evidentiary hearing was held before an ALJ, who issued an initial decision censoring Mr. Upton. The ALJ held that the FiCS’s “pay-down” practice was “simply a device designed to evade the requirements of [Rule 15c3-3(e)].” *Id.* at 96. The ALJ further found that “[b]ecause FiCS was able to use customer funds to finance proprietary activities, the very practice the Rule was designed to prevent, FiCS did not require specific notice that this circumvention of the Rule amounted to a violation.” *Id.* at 96. The SEC affirmed the ALJ’s decision. The Second Circuit reversed.

Mr. Upton claimed that he should not have been held liable for violating the rule because “the Commission knew about the paydown practice well before the underlying events in th[e] action took place and yet did not publicly condemn it until Interpretation Memo 89-10 was released on August 23, 1989.” *Id.* at 98. Upon review of the facts, the court noted that it was “undisputed that FiCS complied with the literal terms of the Rule at all times.” *Id.* at 94. The court also noted that the SEC had begun investigating the paydown practice at several firms “as early as 1986” and had “referred several such ‘violations’ of Rule 15c3-3(e) to the New York Stock Exchange and [had] instructed individual broker-dealers to discontinue the practice.” *Id.* at 97. However, the Exchange had informed the SEC that it would not cite the firms for any

violations because there had been no written interpretation with respect to the practice. In December 1987, the SEC brought an administrative proceeding against another brokerage firm for engaging in a “pay-down” practice. That case had settled and the SEC had issued a consent order. *Id.*

In vacating the SEC’s order, the Second Circuit noted that the SEC “was aware that brokerage firms were evading the substance of Rule 15c3-3(e) by temporarily substituting customer loans on the Rule’s computation date as early as 1986, two years before the events in this case took place. Apart from issuing one consent order carrying ‘little, if any, precedential weight,’ the *Commission took no steps* to advise the public that it believed the practice was questionable until August 23, 1989, after Upton had already stopped the practice.” *Id.* at 98 (emphasis added). Accordingly, the court found that the SEC’s order censoring Mr. Upton violated due process because Mr. Upton “was not on reasonable notice that FiCS’s conduct might violate the Rule.” *Id.*; *see also KPMG, LLP v. SEC*, 289 F.3d 109, 115-16 (D.D.C. 2002) (following *Upton* and concluding that the SEC erred in finding that KPMG was in violation of a rule prohibiting the receipt of contingent fees because KPMG did not have fair notice that its success fee arrangement ran afoul of the rule from “any interpretation . . . the Commission ha[d] ever attached to [the] Rule”).

The due process violation here would be much more apparent than the violation in *Upton*. First, Mr. Upton and his firm’s money management department had received a warning from an NYSE market monitor about their “pay-down” practice six months after they began engaging in that practice. Despite the warning, they continued to engage in the “pay-down” practice for *another six months* before the SEC told them to shut it down. Here, as soon as Dr. Chen received a warning from the PJM market monitor on August 2, 2010, he stopped conducting the

Trades. And second, although the SEC had issued a previous consent order following the settlement of claims related to a “pay-down” practice at another brokerage firm, that *still* was not enough to put Mr. Upton on reasonable notice that a “pay-down” practice was unlawful. Here, there were no prior PJM pronouncements or Commission orders related to the transmission loss credits even suggesting that Dr. Chen’s trading was illegal. Just the opposite: the Commission had practically blessed the type of trading at issue here when it had approved PJM’s inclusion of up-to congestion traders in the allocation of the transmission loss credits. *See supra* p. 28.

F. Bad Facts Would Make Bad Law For The Commission.

There is a final reason why the Commission should decline to pursue this investigation any further: the risks for the Commission far outweigh any potential benefits. Put simply, the investigation is not worth it.

The supposed “problem” that prompted this investigation in the first place – trading that is influenced by the collection of TLCs – has already been rectified via changes to PJM’s tariff, so that virtual up-to congestion traders neither pay for transmission service nor receive TLCs. *See PJM Interconnection, LLC, Order Accepting Tariff Revisions*, 132 F.E.R.C. ¶ 61,244 at PP 44-45 (Sept. 17, 2010). And the dollar amounts involved here (something in the neighborhood of \$5 million in trading profits) are small in the big scheme of the Commission’s priorities.

But the risks to the Commission are not small. As discussed above, the facts in this case are so stacked against the Commission that the likelihood of success is remote. There are bound to be other cases with better facts and better evidence for the Commission than this one. Certainly, the Commission has much more important enforcement priorities than Powhatan and Dr. Chen.

If the Commission pursues charges of market manipulation here, Powhatan is prepared to fight the charges aggressively in court for as long as it takes. Upon the issuance of any order to show cause, Powhatan would elect for an immediate penalty assessment under section 31(d)(3) of the Federal Power Act and *de novo* review by a federal district court. The Commission would therefore face litigation risk in federal court, and the Commission would ultimately be held to the standards that a federal court determines should apply to market manipulation claims, without the benefit of any agency deference (unlike in *Amanat*, where the Third Circuit essentially held its nose and affirmed the SEC due to the deferential standard of review).

Moreover, in accordance with *Brady v. Maryland*, Powhatan would immediately seek discovery of all exculpatory or potentially exculpatory information, including but not limited to:

- Evidence of other PJM market participants engaging in up-to congestion transactions that were influenced by transmission loss credits;
- Draft witness statements;
- Attorney notes of witness interviews;
- E-mails between staff attorneys;
- Internal agency memoranda, including memoranda to the Commission;
- Tape recordings of Commission meetings;
- Minutes of Commission meetings; and memoranda of Commissioners.

See In re Matter of Bilello, No. 93-5, 1997 CFTC LEXIS 244, at *38-39 (Oct. 10, 1997).

The fact that some of these documents may not be admissible in court does not relieve the Commission of its obligation to produce them. *Brady* requires the government to produce exculpatory, but inadmissible material because it “could illuminate a path of investigation leading to admissible evidence” and “may provide information that might lead to facts that can

be inquired into on cross-examination.” *Id.* at *33; *see also Energy Transfer Partners, L.P.*, Docket No. IN06-3-003, Motion to Compel Responses to Thirteenth Set of Data Requests (May 20, 2008). The Commission has expressly acknowledged its obligation to turn over such materials. *See Policy Statement on Disclosure of Exculpatory Materials*, 129 F.E.R.C. ¶ 61,248 (Dec. 17, 2009).

Despite these obligations, it is possible that the Commission might take a narrow view of what *Brady* requires in this case, and not immediately turn over all of the above material. But it would not be the Commission’s view that matters – it would be the court’s. If the Commission were to deny Powhatan access to this material, the court would likely grant it. All of this can be easily avoided if the Commission simply terminates this ill-advised investigation and focuses its resources on more important matters.

III. CONCLUSION

Powhatan did not commit market manipulation. Dr. Chen did not commit market manipulation. Neither did anything wrong. Both the law and the facts are squarely on their side. This investigation can end now or it can end in federal court. For all of the foregoing reasons, the more prudent course is for it to end now.

Respectfully submitted,

Dated: October 21, 2011.



William M. McSwain
Tara S. Sarosiek
DRINKER BIDDLE & REATH LLP
One Logan Square, Suite 2000
Philadelphia, Pa 19103-6996
Phone: 215-988-2700
Fax: 215-988-2757
Email: william.mcswain@dbr.com
Email: tara.sarosiek@dbr.com

Earle H. O'Donnell
WHITE & CASE LLP
701 Thirteenth Street, NW
Washington, DC 20005
Phone: 202-626-3600
Fax: 202-639-9355
Email: eodonnell@whitecase.com

*Attorneys for Powhatan Energy
Fund LLC*

Exhibit A

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Up-to Congestion Transactions)

Docket No. IN10-5-000

AFFIDAVIT OF RICHARD G. WALLACE

1. I have been retained by the law firm of Drinker Biddle & Reath LLP to evaluate the trading activity of Dr. Houlian (Alan) Chen (“Dr. Chen”) on behalf of Powhatan Energy Fund LLC (“Powhatan”) in the PJM Interconnection, LLC (“PJM”) and to analyze whether this trading would be considered illegal wash trading or manipulative trading under the anti-manipulation standards of Section 10(b) of the Security Exchange Act of 1934 (“Exchange Act”), and Rule 10b-5 thereunder. I conclude that under Section 10(b) and Rule 10b-5, Dr. Chen’s trades would not be considered illegal wash trades or manipulative trades.

2. I have familiarized myself with the details of this investigation through conversations with Dr. Chen and Kevin Gates, and by reviewing various materials, including the deposition transcripts and related exhibits of Kevin Gates’ depositions, dated September 23, 2010 and September 7, 2011, the Written Submission to the Staff of the Federal Energy Regulatory Commission (“FERC”) on behalf of Dr. Chen, dated December 13, 2010, Dr. Craig Pirrong's Affidavit, dated December 8, 2010, various FERC decisions and rule-making releases dealing with Up-to-Congestion Transactions, transmission loss credits, and manipulation standards, as well as publicly-available materials regarding the PJM market.

Background and Qualifications

3. I am a partner at the law firm of Foley & Lardner LLP (“Foley”), resident in the Washington, D.C. office, where I am a member of the Securities Enforcement & Litigation and Securities, Commodities & Exchange Regulation Practices.

4. I have more than 18 years of experience with the National Association of Securities Dealers (“NASD”), now known as the Financial Industry Regulatory Authority (“FINRA”), and the United States Securities and Exchange Commission (“SEC”), and have extensive knowledge and experience leading securities enforcement investigations and litigation, while also advising broker-dealers on regulatory issues. While at Foley, I have represented high-frequency trading firms in connection with investigations by FINRA and the New York Stock Exchange (“NYSE”). I have an in-depth understanding of market manipulation and fraud in the securities markets through my work at Foley, FINRA and the SEC, as described below.

5. Prior to joining Foley, I was Vice President and Chief Counsel in FINRA’s Market Regulation Department (2001-2008). I was responsible for the Department’s Legal Section and its role in all formal actions taken by the Department. I supervised approximately two dozen attorneys in the Department’s Legal Section along with the Department’s two Special Investigative Units. The Legal Section handled approximately 300 formal and 200 informal

disciplinary actions per year. I oversaw the filing of complaints with FINRA's Office of Hearing Officers and the Department's litigation of those matters.

6. FINRA is a registered national securities association and thus a self-regulatory organization ("SRO"). Registered securities exchanges, such as the NYSE, Nasdaq OMX ("Nasdaq"), and other registered exchanges (the "exchanges"), are also SROs. SROs promulgate and enforce a variety of rules, including rules requiring their members to observe "high standards of commercial honor and just and equitable principles of trade," such as FINRA's Rule 2010, and they prohibit fraud and manipulation in the securities industry.

7. The Legal Section participated in gathering and analyzing information in FINRA investigations, examinations, and sweeps. I oversaw disciplinary actions involving, among other things, fraud and market manipulation, including spoofing, layering, and wash trading. One of my responsibilities was to determine if the facts established the necessary elements of a violation of the law, regulation, or rule. The Market Regulation Department was responsible for surveillance of the Nasdaq and the over-the-counter ("OTC") equities markets, along with the TRACE and municipal securities fixed income markets.

8. Some of the significant cases brought by the Market Regulation Department during my tenure as Vice President and Chief Counsel included many cases that involved allegations of market manipulation and fraud, such as:

- Debt markup cases against seven firms (2004 and 2005) – Settlements imposing fines totaling \$26,750,000.
- Peter Kellogg (October 2004) – After a hearing, an NASD Hearing Panel dismissed charges of manipulation against Mr. Kellogg for executing matched trades between accounts he controlled for the purpose of realizing tax benefits on the trades.
- Knight Securities L.P. (December 2004) – A joint settlement with the SEC providing for \$79 million in fines, restitution, and interest for the fraudulent handling of institutional orders.
- David Lazarus (July 2005) – A trader entered into a settlement and consented to fines and a suspension for manipulating the market by engaging in transactions to improve the national best bid and offer ("NBBO"), to enable him to trade those securities at more favorable prices with firms offering automated execution at the NBBO.
- Terrance Yoshikawa (August 2005) – A trader was found to have engaged in manipulation through the use of matched trades which manipulated the prices of several stocks.
- Instinet LLC and INET ATS (October 2005) – A joint settlement in which the firms agreed to pay \$1.475 million in fines to settle FINRA charges of publishing inaccurate reports on order execution quality.

- Phillip Melnick (March 2006) – A Hearing Panel entered a default decision finding that a trader had engaged in market manipulation by executing one share transactions designed to improve the NBBO to enable him to trade those securities in larger quantities at more favorable prices.
- 19 trade volume advertising cases (January 2008) – 19 settlements for a total of \$2.8 million for advertising inaccurate trade volume as to equity securities.

9. While at FINRA, I also worked with FINRA’s Market Regulation Committee on the adoption and revision of FINRA rules dealing with customer protection, market making, and reporting.

10. Prior to joining FINRA, I served as an attorney and later as a branch chief with the SEC’s Division of Enforcement from 1990 to 1996. As a branch chief, I supervised six attorneys. While at the SEC, I worked on investigations and litigation involving complex accounting issues, insider trading, issuer fraud, and broker-dealer fraud. I handled investigations and litigation for a variety of high-profile cases, including *SEC v. Eddie Antar* (the “Crazy Eddie” insider trading case), *In re Caterpillar, Inc.* (financial disclosure), *In re BT Securities, Inc.* (fraud in the sale of securities based derivatives), and *SEC v. Pitt, et. al.* (C.D. Cal. 1986) (stock manipulation).

11. I am a frequent speaker at conferences sponsored by ALI-ABA, FINRA, the SEC, the National Society of Compliance Professionals, and the Security Traders Association (“STA”). For the last four years, I have been a member of the STA’s Compliance Committee.

12. My publications include my work as a contributing author of *Chapter 25: SRO Regulatory Matters*, Securities Enforcement Treatise: Counseling and Defense, published by Matthew Bender (Sept. 2005); *FINRA Priorities and FINRA Results*, published in Law360 (Mar. 2010); *Use of Independent Consultants as a Remedy in Securities Enforcement Actions*, published in BNA Securities Regulation & Law Report (Apr. 2010); *Goldman Sachs and the Wells Process*, published in Law360 (May 2010); *Clearly Erroneous Trades, Circuit Breakers, and Related Developments*, published in BNA Securities Regulation & Law Report (Feb. 2011); and *Assessing FINRA Priorities and Results*, published in Law360 (Feb. 2011).

13. From 1984 to 1985, I served as a law clerk to the Honorable Samuel P. King, Chief Judge, United States District Court of the District of Hawaii. I earned my law degree from Berkeley Law, University of California (J.D., 1984), where I was executive editor of the California Law Review. I am a graduate of University of California, Berkeley (A.B., with honors, 1981). I am admitted to practice in the District of Columbia and California.

Introduction

14. I understand that the Staff of the Division of Investigations of FERC is currently investigating the up-to-congestion trades on the PJM effectuated by Dr. Chen for Powhatan which were motivated in part by the transmission loss credits (“TLCs”) available for such trades. The core question in this inquiry is the propriety of traders engaging in transactions motivated in

part by receipt of the TLCs. I understand that the Staff of FERC is considering whether such trades constitute unlawful market manipulation.

15. Because the concept of market manipulation in FERC rules is based on Section 10(b) of the Exchange Act and Rule 10b-5 thereunder, FERC should note that trading for the purpose of collecting a rebate is considered a lawful and recognized practice in the securities markets. Further, the SEC has allowed certain trading strategies in the options markets that rely on offsetting riskless trades that create volume without adding liquidity to the market, and are effectuated solely to earn certain dividends. When FERC adopted rules prohibiting market manipulation, it explained that these rules were “patterned after the [SEC’s] Rule 10b-5” and are “intended to be interpreted consistent with analogous SEC precedent that is appropriate under the circumstances.” *Prohibition of Energy Mkt. Manipulation*, 114 F.E.R.C. ¶ 61,047 at P 2, 52-53 (Jan. 19, 2006) (“Order No. 670”). As discussed in more detail below, just as PJM offered TLCs for various economic reasons, securities exchanges have offered certain forms of rebates to market participants, and options exchanges have approved fee caps whereby participants can profit by earning dividends through a strategy based on off-setting trades.

Rebates for Reporting Trade Data in the Equities Markets

16. There have historically been two primary types of rebates in the securities markets: initially there were rebates for reporting trading on an exchange or other market, and subsequently there have been rebates for providing liquidity to markets operating pursuant to the maker-taker fee model. Rebates for reporting trade data are discussed first, below.

17. The concept of fees for trade data came about from the 1975 amendment to the Exchange Act, which established the requirement of a national market system (“NMS”). Key components of the NMS were the systems for collecting and distributing consolidated market data. Consolidated market data includes both (1) pre-trade transparency – real-time information on the best-priced quotations at which trades may be executed in the future (“consolidated quotation data”), and (2) post-trade transparency – real-time reports of trades as they are executed (“consolidated trade data”). As a result of these requirements, the public has ready access to a comprehensive and reliable source of information for the prices and volume of any NMS stock (generally those stocks listed on a national securities exchange).

18. Consolidated market data is collected and distributed pursuant to a variety of Exchange Act rules and joint-industry plans. With respect to post-trade transparency, the exchanges and FINRA are required to file a transaction reporting plan regarding transactions in listed equity securities. These SROs are also required to act jointly pursuant to national market system plans to disseminate consolidated information, including an NBBO on quotations for and transactions in NMS stocks. Consolidated information for each NMS stock must be disseminated through a single plan processor.

19. To comply with these requirements, the exchanges and FINRA participate in joint-industry plans (“Plans”). Pursuant to the Plans, three separate networks distribute consolidated market data for NMS stocks: (1) Network A for securities with their primary listing on the NYSE; (2) Network B for securities with their primary listing on exchanges other than the NYSE or Nasdaq; and (3) Network C for securities with their primary listing on Nasdaq. The

three Networks establish fees for the data, which must be filed for SEC approval. The three networks collect the applicable fees from Reuters, Bloomberg and other data vendors and, after deduction of network expenses, allocate the remaining revenues to the SROs.

20. Market data revenues have amounted to hundreds of millions of dollars annually and have represented a significant portion of the exchanges' total revenues. For example, in 2004, Networks A, B, and C generated net income of approximately \$155 million, \$100 million, and \$138 million, respectively, for a total of approximately \$394 million. *See* Security and Exchange Commission, Regulation NMS Adopting Release, 70 Fed. Reg. 37,496, 37,558 (June 9, 2005) (codified at 17 C.F.R. Parts 200, 201, 230, 240, 242, 249, and 270) ("Reg. NMS Adopting Release"). This constituted about 10-15 percent of total revenues reported by the largest exchanges in 2004 and more for some of the smaller exchanges. *See* Cecilia Caglio and Stewart Mayhew, *Equity Trading and the Allocation of Mkt. Data Revenue*, at 1 (May 27, 2009) ("Caglio & Mayhew").

21. Prior to 2007, the revenues were allocated in a manner that rewarded SROs for reporting the maximum number of trades, regardless of the number of shares traded. For securities in Networks A and B, the calculation was based on each SRO's share of reported trades. For Nasdaq securities, an SRO's revenues were based on the average of its reported trades and share volume. As an example, if an SRO reported 10 percent of the trades for NYSE-listed stocks, it got 10 percent of the market data revenue distributed for NYSE-listed stocks. That allocation was the same whether the SRO's average print was for 100 shares or 10,000 shares.

22. In order to maximize earnings from these rebates, in the late 1990s exchanges began to introduce programs to share data revenue with the specialists or member firms that generated the order flow. Between 1997 and 1999, revenue sharing or rebate programs were initiated by the Chicago Stock Exchange ("CHX"), the Cincinnati Stock Exchange ("CSE"), the Boston Stock Exchange ("BSE"), and Nasdaq. Members of the exchanges who exceeded certain levels of reported trading activity in exchange-listed securities were awarded a certain percent of the market data revenue received from the Plan that was attributable to the members' trades ("tape rebates").

23. During 2000 and 2001, electronic communications networks ("ECNs") also began to provide tape rebates, especially on trades of exchange traded funds. As rebates grew, trading became cheaper, which led to increased volume.

24. These tape rebate programs were initiated with the SEC's approval and had a clear influence on trading behavior. As noted by the Caglio and Mayhew study for the SEC's Office of Economic Analysis:

It has long been understood by industry participants and regulators that allocation formulas influence how trades are executed and reported. . . . [This paper] confirms the incentives created by allocation formulas are large enough to have a significant impact on average trade size [and] that revenue-sharing/rebate programs are a key mechanism used by the exchanges to align the incentives of order-flow providers with the exchange.

Caglio & Mayhew at 4.

Tape or Trade Shredding

25. The advent of tape rebates led to many traders engaging in a practice known as “tape shredding” or “trade shredding” – a term used to describe the practice of intentionally splitting orders for securities into multiple smaller orders (e.g., splitting a 1,000 share order into ten 100-share orders) for the primary purpose of maximizing payments of rebates.

26. This practice caused the SEC to become concerned that market participants were increasingly engaging in tape shredding as a means of increasing their share of tape rebates. The SEC was worried that tape shredding might occur at the expense of best execution of customer orders. The SEC dealt with the situation in two ways. One, it sought to disincentivize this behavior by changing, through rule-making, the allocation formula determining how participants in the Plans were allocated rebates. Two, it reached out to the SROs and asked them to adopt explicit rules prohibiting the practice of tape shredding.

27. The SEC altered the formula which allocated market data fees to SROs when it adopted Rules 601 – 603 of Regulation NMS (“Reg. NMS”) and revised the joint industry plans in June 2005. This revised formula, which went into effect in 2007, eliminated the print disparity and encouraged aggressive quoting by rewarding exchanges for automated and accessible limit orders. Pursuant to the new formula, half the tape revenues were allocated based on an SRO’s quoting share, and the other half were distributed according to an SRO’s share of the trading. An SRO’s trading share was computed in a way that did not assign equal value to small and large trades.

28. While the SEC and SROs acknowledged that tape shredding was disruptive, they did not state that it was illegal or in violation of any securities laws or rules, including the SRO rules prohibiting acts that are contrary to high standards of commercial honor and just and equitable principles of trade. In particular, the SEC stated in the Reg. NMS Adopting Release:

[T]he current [joint industry] Plan formulas are seriously flawed by an excessive focus on the number of trades, no matter how small the size, reported by an SRO. They thereby create an incentive for distortive behavior, such as wash sales and trade shredding, and fail to reflect an SRO’s contribution to the best displayed quotations in NMS stocks. The [newly] adopted formula corrects these flaws.

Reg. NMS Adopting Release, 70 Fed. Reg. at 37,503.

29. In addition to revising the allocation formula, in early 2005 the SEC asked the SROs to pass rules prohibiting tape shredding, and in between August 2005 and May 2006, six exchanges and the NASD adopted rules prohibiting tape shredding.¹

¹ See, e.g., Caglio & Mayhew at 17, and NASD Notice to Members 06-19, *SEC Approves New Rule 3380, Order Entry & Execution Practices* (Apr. 2006).

30. While the SEC and the SROs clearly recognized that the tape rebates were causing market participants to engage in trading behavior that was impacting the markets and the allocation of tape revenues, and potentially harming customers, they did not seek to punish these market participants for tape shredding in response to rebates which were put in place with the approval of the SEC. Rather, they sought to change the rebate structure to discourage participants from engaging in tape shredding and to incorporate explicit prohibitions against such behavior into SRO rules.

Liquidity Rebates, High Frequency Trading and Trading Strategies Based on Rebates

31. A maker-taker fee model has been adopted by exchanges to subsidize the provision of liquidity on their exchanges. Pursuant to this model, exchanges pay a fee to those who post non-marketable limit orders to buy or sell securities (and therefore “make” liquidity), and charge a fee to those who submit active market orders or marketable limit orders that “take” liquidity. Firms can add liquidity with non-marketable resting limit orders to either buy or sell a security.

32. These rebates for making liquidity have been a major facilitator for the emergence of algorithmic high frequency trading (“HFT”). While there is no strict definition of HFT, it typically refers to professional proprietary traders that engage in thousands and sometimes millions or more trades a day. They establish positions for very short time periods, submit numerous orders that are cancelled shortly after submission, and typically do not carry any positions over-night. HFT has been described as “a very low-margin, low-risk strategy. Traders earn less than a penny a share and rarely hold overnight positions. Profits are measured in hundredths of a cent, or ‘mils,’ to use the industry parlance. [According to a former head of quantitative trading at Goldman Sachs], high frequency traders typically earn about 10 mils, or 0.1 cent, a share trading U.S. equities. One of the attractions of the strategy is its consistency. High frequency traders rarely have losing days.” See Michael Peltz, *Inside the Machine: A Journey into the World of High Frequency Trading*, Institutional Investor, May 2010, at 115.

33. The SEC published a Concept Release on Equity Market Structure in January 2010 which focused, in large part, on the changes to the market caused by the emergence of HFT. See Securities and Exchange Commission, *Concept Release on Equity Mkt. Structure*, 75 Fed. Reg. 3594 (Jan. 21, 2010) (codified at 17 C.F.R. Part 242) (“SEC Concept Release”). It noted that HFT firms account for 50 percent or more of the total volume in the U.S. equities markets, and that “HFT is a dominant component of the current market structure and is likely to affect nearly all aspects of its performance.” *Id.* at 3606.

34. The SEC also acknowledged that liquidity rebates have played a significant role in the creation and strategies of HFT firms:

Highly automated exchange systems and liquidity rebates have helped establish a business model for a new type of professional liquidity provider that is distinct from the more traditional exchange specialist and [OTC] market maker. In particular, proprietary trading firms and the proprietary trading desks of multi-service broker-dealers now take advantage of low-latency systems and liquidity rebates by submitting large numbers of

non-marketable orders (often cancelling a very high percentage of them), which provide liquidity to the market electronically.

Id. at 3599.

35. One of the significant strategies used by HFT firms is passive market making. Passive market makers submit non-marketable bids and offers that rest on the exchange order books and provide liquidity at specified prices. Sometimes the passive market makers take liquidity (i.e., enter a bid or offer that is immediately executed at market price), but as explained by the SEC in its Concept Release, “[The HFT’s] primary sources of profits are from earning the spread by buying at the bid and selling at the offer and *capturing any liquidity rebates* offered by trading centers to liquidity-supplying orders.” *Id.* at 3707 (emphasis added).

36. In fact, the profit that can accrue from capturing liquidity rebates can often be greater than any profits from earning the spread. Several factors contribute to this situation. First, there is never a guarantee that a trader will be able to capture the spread before the market moves adversely to his position. Second, the mean bid-ask spread for most actively traded stocks is about \$0.02.² Third, liquidity rebates at the NYSE and BATS Exchange range from \$0.0017 to \$0.0031³ and a trader can trade in a manner guaranteeing that he will earn the liquidity rebate for both buying and selling securities. Thus, the guaranteed rebate for buying and selling through orders that provide liquidity can be as high as \$0.0062. While the mean spread at \$0.02 is somewhat larger than two rebates, the mean spread is not guaranteed.

37. The current fee for taking or removing liquidity on Nasdaq is \$0.0030 per share. Nasdaq’s highest rebate for adding liquidity, after meeting a certain threshold, is \$0.0029 per share.

38. The fact that rebates are an important aspect of many HFT firms’ trading strategies and that some firms conduct some trades solely for the rebates has been acknowledged by the SEC. In its Concept Release the SEC stated: “One important aspect of passive market making is the liquidity rebates offered by many exchanges and ECNs...[t]he Commission requests comment on the volume of high frequency trading geared toward earning liquidity rebates and on the benefits or drawbacks of such trading.” *Id.* at 3608.

² See RGM Advisors, LLC, *Market Efficiency and Microstructure Evolution in U.S. Equity Markets: A High-Frequency Perspective*, at 5 (Oct. 2010), available at http://fnce.wharton.upenn.edu/news/Litzenberger_transient_vol5_2010.pdf. (explaining that the mean bid-ask spread for the stocks listed in the Russell 1000 Index in 2010 is approximately \$.02.).

³ See NYSE Trading Fee Schedule, available at <http://usequities.nyx.com/markets/nyse-equities/trading-fees> and BATS BZX Exchange Fee Schedule, available at <http://www.batstrading.com/FeeSchedule/>.

39. Moreover, the SEC asked, “For example, are there risk-free trading strategies driven solely by the ability to recoup a rebate that offer little or no utility to the marketplace?” *Id.* The SEC did not suggest or imply that such trading is in any way fraudulent or illegal. In fact, industry commentators responding to the SEC’s questions regarding HFT and liquidity rebates have affirmed that there are indeed HFT firms that rely solely on rebates to be profitable.⁴

40. Like the SEC, the International Organization of Securities Commissions (“IOSCO”) released a paper last year in which it reviewed HFT and concluded that it is in part driven by the rebates from the maker-taker model: “[M]aker/taker structures can lead to trading strategies aimed at optimizing rebates received for providing liquidity versus fees paid for taking it, rather than focusing on the level of the given instrument’s price.” IOSCO Consultation Report, *Regulatory Issues Raised by the Impact of Technological Changes on Market Integrity and Efficiency*, at 18 (July 2011).

41. Significantly, when HFT firms buy and sell a security at the same price in close time proximity and earn two rebates, the traders are on a net basis adding no real liquidity to the market.

42. As the SEC and Commodity Futures Trading Commission (“CFTC”) noted in their report on the so-called “flash crash” of May 6, 2010, where the securities markets crashed and then rebounded in a matter of minutes, “[u]ntil recently, the fluctuations in the bid ask spread regulated the demand and supply of liquidity in financial markets. Now, it appears that in a world of HFT, bid ask spreads no longer provide sufficient incentives to offer liquidity in periods of high volatility.” Joint CFTC-SEC Advisory Committee on Emerging Regulatory Issues, *Recommendations Regarding Regulatory Responses to the Market Events of May 6, 2010*, p. 9 (Feb. 2011). Further, “especially in times of significant volatility, high trading volume is not necessarily a reliable indicator of market liquidity.” Joint CFTC-SEC Advisory Committee on Emerging Regulatory Issues, *Findings Regarding the Market Events of May 6, 2010*, at 3 (Sept. 2010).

⁴ See, e.g., Correspondence from M. Nanang (Tradeworx, Inc.) to E. Murphy (SEC) dated April 21, 2010 attaching *Tradeworx, Inc. Pub. Commentary On SEC Mkt. Structure Concept Release* at 8 (Apr. 21, 2010) (“Tradeworx Presentation”) (explaining, “For stocks that are extremely liquid, some market-makers may be willing to buy and sell at the same price; assuming they are able to hold positions for extremely short periods, there is minimal risk of adverse price movements. *Such market-makers are said to be operating rebate-capture strategies because their only compensation is the rebate offered by exchanges for posting orders.*”) (emphasis added); see also Sal L. Arnuk and Joseph Saluzzi, *Toxic Equity Trading Order Flow on Wall Street. The Real Force Behind the Explosion in Volume and Volatility*, at 2 (Dec. 2008), available at http://www.themistrading.com/article_files/0000/0348/Toxic_Equity_Trading_on_Wall_Street_12-17-08.pdf (explaining that the provision of exchange liquidity rebates has “led to trading strategies solely designed to obtain the liquidity rebate.”).

43. In sum, the history of trading for rebates and the current HFT firms that rely on rebate trading clearly show that this is a lawful practice in the securities markets and not a violation of Section 10(b) of the Exchange Act, SEC Rule 10b-5, or the SRO's rules requiring "high standards of commercial honor and just and equitable principles of trade". The fact that Dr. Chen analogously sought to capitalize on the TLCs and make those a part of his over-all trading strategy would similarly not be considered illegal or manipulative under Section 10(b) or Rule 10b-5.

Dividend Trade Strategies in the Equities and Options Markets

44. Another form of trading in the equities and options markets relevant to this analysis is a form of trading referred to as "ex-dividend arbitrage" or "dividend play trades." Jia Hao, Avner Kalay, and Stewart Mayhew, *Ex-dividend Arbitrage in Options Markets*, The Society for Financial Studies (May 21, 2009) ("Hao, Kalay and Mayhew") [Dr. Mayhew was Deputy Chief Economist of the SEC at the time the paper was published]. Pursuant to this strategy, registered market makers in the options markets attempt to capture corporate dividend payments when individual options traders leave deep-in-the-money call options unexercised on the day prior to a stock's ex-dividend date (the day before which a stock must be owned in order to earn a dividend). This strategy is not prohibited by the SEC.

45. To capture as much of the dividend as possible, two market makers trade deep-in-the-money call options back and forth with each other on the day prior to the ex-dividend date. "Because the two trades are exactly offsetting and executed at the same price, the initial position has zero risk and requires no capital." Hao, Kalay and Mayhew at 272. "Because the trades are exactly offsetting, dividend play trades create trading volume without adding any liquidity to the market." *Id.* at 282. The market makers then exercise all their long options positions so that they are left with a long stock position. In most cases, their corresponding short options positions will be assigned and the market makers will be required to deliver most of their long stocks.

46. Key to this strategy is the fact that the market makers will not be required to deliver *all* of their long stocks, because in some instances investors who are long the call options for the stock are not savvy enough to know that they should exercise their options in order to earn the dividends, or do not have enough money to buy the stock. This works to the benefit of the market makers, who rely on the fact that the Options Clearing Corporation ("OCC") randomly settles transactions when options are exercised, and if certain call options are unexercised there is a corresponding likelihood that investors who are short the calls will not be obligated to deliver the stock. Because the market makers hold such a large number of short calls, they manage to collect the dividend payment on the corresponding long stock positions. *See* International Securities Exchange ("ISE"), *Dividend Trade Strategies in the U.S. Options Industry White Paper*, (Mar. 2010).

47. Because the market makers are left with a long stock position that is fully hedged by their short deep-in-the-money calls, this strategy has little risk in a low volatility environment. This practice is so prevalent among market makers that it has led to a marked increase in options trading volume in the options industry. *See id.* at 8-9; Hao, Kalay and Mayhew at 272, 282-83. As explained by the ISE, "[a]lthough the U.S. equity options industry reported 3% growth in

2009 . . . this growth is solely attributable to an objectionable trading strategy called a ‘dividend trade.’” ISE, *Dividend Trade Strategies* at p. 2. According to ISE, “this strategy distort[s] market share with millions of contracts [and] also takes advantage of . . . individual options traders.” *Id.*

48. Despite these issues, the SEC has never forbidden these strategies and has no rules prohibiting these trades based solely on earning dividends. *Id.* at 10.

49. In fact, the SEC has approved the fee caps effectuated by the exchanges, without which these strategies would not be profitable. These fee caps encourage firms to enter into the simultaneous long and short positions necessary for this strategy. In particular, several options exchanges have set caps for market makers engaging in dividend capture strategies and have explicitly stated in adopting such caps that they are meant to facilitate these transactions. *See, e.g.,* Hao, Kalay and Mayhew at 271, 281, and n.6 (noting the fee caps and describing dividend arbitrage as a trading scheme that “inflates reported volume and distorts its traditional relations to liquidity”). Fee structures encouraging dividend play trading have been adopted, in each case with SEC approval, by the Pacific Exchange, the Philadelphia Stock Exchange, the American Stock Exchange, and the Chicago Board of Option Exchange. *Id.* at 281.

50. As noted by Hao, Kalay and Mayhew, “[t]he trading scheme inflates reported volume and distorts its traditional relations to liquidity. . . . [D]ividend play activity increases trading volume without increasing liquidity. Exchanges executing a large amount of dividend play trading volume might convey an incorrect impression to market participants about the level of liquidity available on that exchange.” *Id.* at 271, 295. Despite the impact of the trading on reported volume, the trades, which can be executed with “zero risk and . . . no capital,” are approved by the SEC. *Id.* at 272.

Manipulation and Wash Trading in the Securities Markets

51. Courts considering manipulative behavior in the securities markets have identified certain hallmarks of manipulation which can be indicative of the existence of manipulative conduct. These include:

- trades that are done through fictitious names or nominees in order to hide their true ownership;
- an uneconomical trade is executed in one market or security to affect a price in another market or security;
- evidence that the trader knew or was reckless in not knowing that his actions might be harmful to the market or outright illegal;
- dissemination of false literature and/or false information about the bids, offers, price, or volume of trading of a security;
- attempts to dominate or control the market;

- the collapse of the market following the conclusion of the alleged manipulation;
- matched orders; and
- wash sales.

52. In the present case, none of the aforementioned hallmarks of manipulation is present. I understand the following facts to be true. Dr. Chen did not try to hide the trades or his trading strategies, and the trades did not adversely affect the price of any other market transactions. Further, there is no evidence that Dr. Chen or Powhatan knew or could have known that the trades were in any way harmful to the market or in any way illegal. The Up-to Congestion bids submitted by Dr. Chen did not lead to the dissemination of any false pricing or volume information. Nor did Dr. Chen attempt to dominate or control the market. The Up-to Congestion market did not collapse after these trades ended or suffer any adverse effects from these trades. Additionally, the Up-to Congestion Trades were not matched trades, because there was always a chance that one of the legs of the transactions would not be accepted.

53. Further, the trading at issue here was not wash trading, as that practice is understood in the securities markets. Prohibited wash trades are those transactions that involve nearly simultaneous purchase and sale of the same security for the same beneficial owner. Wash sales do not expose the trader to non-trivial market risk and, thus, have no legitimate economic foundation. They are effectuated with the intention of creating a false or misleading appearance of active trading in a particular security, usually to influence the price or volume of a security. Increased volume creates the appearance of demand and liquidity.

54. Wash traders do not profit from their wash trades—rather, they profit either through the subsequent change in the price of the security or through accruing some other, later benefit that is in some way tied in with the security. The “cost” of a wash trade to the trader is that he pays the transaction costs involved in making the trade.

55. In this case, my understanding about the facts surrounding the Up-to Congestion Transactions effectuated by Dr. Chen for Powhatan leads me to conclude, for several reasons, that they were not wash trades. One, they did not offset each other or reduce the risk of loss or gain to zero. When Dr. Chen entered bids for Up-to Congestion Transactions going to and from the same two locations, he incurred the risk that one of the transactions would not clear because the congestion could exceed the relevant cap. This exposed Powhatan to significant risk of loss and potential for gain. Further, the amount of the transmission loss credits was unknown at the time the bids were placed, and Powhatan ran the risk that the costs of the transaction would outweigh any potential credits.

56. Additionally, I understand that in many instances, Dr. Chen entered into Up-to Congestion Trades which did not have the maximum congestion limit, even though the chance of one leg getting rejected was greater when the congestion limit was set lower. This practice exposed Powhatan to increased risk of only one of the legs of the Up-to Congestion Transactions clearing – behavior that is contrary to trying to engage in wash transactions with no potential economic benefit.

57. Another important distinction is that Dr. Chen lacked the requisite scienter required to find an illegitimate wash trade. My understanding is that his trades were not effectuated for the purpose of creating any false or misleading impression of active trading or some other market activity, and there is no indication that he took any steps to hide his trading or continue it once he realized that questions were being raised about his trades. Further, the collection of TLCs was not the only purpose of his trades: he also hoped to profit from the transactions if one of the legs was rejected, as discussed above.

58. Dr. Chen effected the Up-to Congestion Transactions for a legitimate business purpose, and similar activity has been accepted as legitimate in the securities markets. An important case demonstrating this concept is one in which I was involved. In 2003, when I was the Vice President and Chief Counsel of the Market Regulation Department, NASD brought a case against Peter Kellogg for engaging in certain matched trades. *See* NASD Press Release, *NASD Charges Peter Kellogg with Fraudulent Wash and Matched Trades* (Nov. 5, 2003). NASD alleged that Mr. Kellogg had engaged in fraudulent wash and matched trades in August 2001 when he placed identical, simultaneous buy and sell orders between four accounts he controlled with the purpose of realizing non-taxed gains. There was no real change in the beneficial ownership of the securities at issue.

59. On August 6, 2004, the NASD announced that a Hearing Panel had dismissed NASD's complaint because the Hearing Panel found that "there was no evidence that Kellogg carried out the four transactions at issue with the intention to defraud, manipulate or deceive. Rather, the panel found that Kellogg conducted the transactions for legitimate business and tax purposes." *See* NASD Press Release, *NASD Hearing Panel Dismisses Complaint Against Peter R. Kellogg* (Aug. 6, 2004). FINRA does not make hearing panel decisions publicly available when charges are fully dismissed. However, NASD did release a redacted Order issued by a Hearing Panel that matches up with the Kellogg decision. *See* Dep't of Mkt. Regulation v. Kellogg, No. CMS030257, Disciplinary Proceeding (Aug. 6, 2004) ("Hearing Panel Decision"), *available at* 2004 NASD Discip. LEXIS 64.

60. In its decision, the Hearing Panel explicitly rejected the arguments that (1) matched orders are *per se* illegal, regardless of whether they are part of a broader wash sale scheme, and therefore do not require independent proof of scienter and that (2) even in the absence of manipulative intent, wash sales and matched orders are deceptive and operate as a fraud on the market. The Hearing Panel stated that these theories were "not consistent with the provisions of the Exchange Act or the case law arising thereunder." *Hearing Panel Decision*, at 9.

61. The Hearing Panel found that the trades were legitimate because they were done for a legitimate business purpose and could not be prohibited wash trades without scienter. It stated that "[r]espondent's trades were effected in good faith and did not come within the proscription [against wash trades] of § 9(a) [of the Exchange Act]. There were only four transactions in shares of an established company, and no evidence of any attempt or reason to manipulate the price of those shares, to induce anyone to trade in those shares, or to create the false or misleading appearance of market activity." *Id.* at 11-12.

62. Like Peter Kellogg, Dr. Chen engaged in transactions with a legitimate economic purpose, and without the intent of harming the market.

63. Wash sales that have a legitimate purpose do not violate the federal securities laws. This is the reasoned decision of the Kellogg Hearing Panel Decision. It is also the implied rationale in the SEC's rule-making surrounding the tape revenue rebates, tape shredding and dividend trading discussed above.

64. Finally, the transactions effectuated by Dr. Chen for Powhatan are distinguishable from wash sales in the equities markets because the Up-to Congestion Trades did not have the same external effects caused by wash sales in the equities markets. Wash sales in the equities markets almost inescapably result in external effects. The primary cause of these externalities is the dissemination to the public of price and volume information about the wash sales that is misleading because it results from non-competitively priced trades. Wash sales in the equities markets give the misleading impression of trading volume and interest in a security, and market participants rely on the disseminated information and allocate their resources accordingly.

65. In contrast, I understand that the bids entered by Dr. Chen for Powhatan did not result in similar external effects. Powhatan's increased trading volume did not adversely impact the day ahead or real-time market for electricity at the nodes involved. Further, these transactions did not deprive anyone of transmission loss credits to which they had any claim or right.

66. I therefore conclude that the transactions effectuated by Dr. Chen for Powhatan were neither manipulative nor wash trades as those terms are used or understood in the securities context.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Up-to Congestion Transactions)

Docket No. IN10-5-000

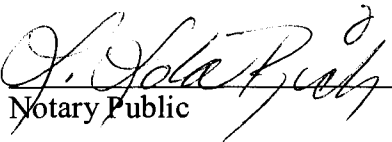
AFFIDAVIT

Richard G. Wallace, first being duly sworn on oath, deposes and says that the foregoing is his sworn affidavit in this proceeding and that the foregoing affidavit is true, correct, and complete to the best of his information, knowledge, and belief.


Richard G. Wallace

Subscribed and sworn to before me this 21ST day of October, 2011.




Notary Public

My Commission Expires:

MY COMMISSION EXPIRES:
July 14, 2013

Exhibit B

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Up-To Congestion Transactions) Docket No. IN10-5-000

Affidavit and Appendices of Richard D. Tabors, Ph.D

My name is Richard Tabors. I am a Vice President of Charles River Associates (CRA) in Boston, Massachusetts. I have spent my professional career at the interface between economics and engineering, primarily in the design and implementation of markets in the electric power sector. Along with three colleagues while at the Massachusetts Institute of Technology (MIT), I co-authored *Spot Pricing of Electricity*, which is generally considered the basic theoretical text for the design of electric energy and transmission markets worldwide. I have been a director of research and research laboratories and a faculty member at both Harvard University (1970 to 1976) and MIT (1976 to 2005). In 1989, along with two of my colleagues, I formed Tabors Caramanis & Associates that became a part of CRA in 2004.

My full resume is included as Appendix B to this affidavit.

I have been asked to provide expert opinion on the functioning of Up-To Congestion (UTC) trading within the energy market of PJM Interconnection, L.L.C. (PJM). In addition, I have been asked to review the trading strategy of Dr. Alan Chen, trading on behalf of Powhatan Energy Fund LLC (Powhatan), and the impact that the Federal Energy Regulatory Commission's

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

(FERC or Commission) decision to allocate Transmission Loss Credits (TLC) to cleared UTC transactions had upon that strategy. I also review the impact of any enforcement action applicable to these transactions on the broader market. Finally, I consider whether the strategy pursued by Dr. Chen constituted rational and legitimate economic behavior.

This affidavit is divided into three sections. The first section begins with a discussion of the nature of UTC transactions within the PJM market design and financial (virtual) participants' involvement in UTC transactions. It also discusses the genesis and allocation of TLCs as well as the relationship between the transmission reservation requirements of UTC transactions and the allocation of the TLCs that result from the marginal loss calculations of PJM.

The second section of the affidavit discusses the theoretical and practical incentives created, and consequences incurred, by allocating TLCs to virtual traders who engaged in UTC transactions. It also discusses the consequences of penalizing behavior that FERC explicitly recognized that it would incentivize by allocating TLCs to UTC traders but failed to prohibit.

Finally, the affidavit will review, from the perspective of an economist who has participated widely in the design of electric energy markets throughout the world, the virtual bidding strategies executed by Dr. Chen. I explain how Dr. Chen engaged in five types of trading strategies of UTCs, none of which were either designed to *ensure* receipt of TLC revenues or guaranteed only to operate at a loss but for TLC revenues. All five strategies were instead designed to seek profit from price spreads while mitigating transaction costs with TLC revenues. I conclude that all the strategies reflect rational and legitimate economic behavior given the price signals and incentives created by PJM's market design in place at the time the transactions were executed.

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

In Appendix A to this affidavit, I have included a detailed explanation of how UTC congestion caps work. The fundamental characteristics of UTC transactions described in Appendix A are essential to understanding Dr. Chen's trading strategies and the incentives created by the allocation of TLCs to virtual UTC transactions that cleared the market.

In preparing this affidavit, I relied upon publicly available information from the PJM web site, information available from Energy Velocity (data provider to CRA), information from the Written Submission To Commission Investigation Staff On Behalf Of Dr. Houlian Chen submitted in Docket No. IN10-5-000 on December 13, 2010, and interviews with, and summary spreadsheets provided by, Dr. Houlian (Alan) Chen.

Section I. Market Design

"Up-To Congestion" Transactions

According to PJM, UTC transactions were first incorporated into the market design of the PJM Open Access Transmission Tariff (OATT) in order to give parties with physical delivery obligations, or physical wheels of power through PJM, the opportunity to hedge against congestion costs: "[UTC] transactions were originally created as a mechanism to hedge in the Day-ahead Energy Market the exposure to price differentials from the source to the sink of their physical energy deliveries into, out of or through PJM in the Real-time Energy Market, and to allow market participants who want to wheel power through PJM to set the maximum dollar value of congestion they would be willing to pay to wheel that power."¹ In order to engage in a UTC transaction, therefore, the PJM OATT required that the (physical) trader reserve, and in

¹ PJM Initial Filing in Docket No. ER10-2280 at 2 (Aug. 18, 2010).

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

most instances² pay, for firm or non-firm transmission service on the path between the two points used in the UTC transaction.³

Transmission service must be reserved *first*, before the trader enters the UTC bid into PJM's Enhanced Energy Scheduling (EES) system and before day-ahead prices are known. After transmission service is reserved and an Open Access Same-time Information System (OASIS) reservation number obtained, the trader may go to the EES system before noon eastern time the day-ahead and enter the OASIS reservation number as well as the desired congestion cap. After PJM publishes the day-ahead locational marginal prices (LMP) at 4 p.m. eastern time, the trader will know whether the UTC bid(s) cleared the market or not.

The following are costs associated with a UTC transaction:

- Cost of transmission service, which PJM's OASIS states is \$0.67 per MWh for non-firm service. However, by agreement with the Midwest Independent Transmission System Operator, Inc. (MISO), PJM did not charge for transmission service when power was exported from PJM to MISO. The transmission reservation charge was incurred by the trader whether or not the associated bid cleared the market.
- PJM overhead costs (*e.g.* market monitor funding, PJM scheduling and dispatch services), which averaged \$0.04 per MWh.
- Black start service, reactive supply and voltage control from generation services, which averaged \$0.21 per MWh.

In addition to the costs above, PJM also provided a small "PJM Scheduling, System Control and Dispatch Service Refund – Market Support" (less than \$0.01 per MW).

² PJM did not require parties to pay for transmission service associated with transactions exporting power from PJM to MISO.

³ Attachment K – Appendix to the PJM Open Access Transmission Tariff, Section 1.10.1(b); *see also* parallel provision in Section 1.10.1(b) of Schedule 1 of the Amended and Restated Operating Agreement of PJM.

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

Prior to September 17, 2010, the FERC-approved PJM OATT required that virtual traders fulfill the same transaction requirements as do physical UTC traders, that is, that they reserve, and commit to pay for, transmission access service from MISO to PJM in advance of setting a position and paying the required costs for a UTC bid.⁴ This was a questionable market design decision on the part of PJM and FERC given that virtual transactions are non-physical and are always closed out between the day-ahead and the real-time markets – no transmission is used in these transactions and neither reactive power nor voltage control were needed. Thus, the vast majority of the costs incurred by UTC traders, including the use of the transmission system and the reactive power/voltage control charges, are not relevant or necessary to accomplish a virtual UTC transaction. In effect, these payments subsidized the entities that actually required physical transmission and or reactive power / voltage control.

Allocation Of Transmission Loss Credits

Starting in October 2009, PJM began to *allocate* TLCs to UTC traders in direct relation to each MWh of cleared UTC transactions for which the trader paid for transmission service.⁵ TLCs result from the decision of PJM, approved by FERC, to (correctly) calculate the cost of losses on the transmission system based on the marginal rather than the average cost.⁶ This principle provides to all participants in the market the theoretically correct locational price for

⁴ *PJM Interconnection, L.L.C.*, 132 FERC ¶ 61,244 (2010) (Order Accepting Tariff Revisions).

⁵ *Black Oak Energy, L.L.C. v. PJM Interconnection, L.L.C.*, 125 FERC ¶ 61,042 at P 12 (2008) (“*Black Oak II*”); *order on clarif.* 126 FERC ¶ 61,164 (2009) (“*Black Oak III*”).

⁶ *Atl. City Elec. Co. v. PJM Interconnection, L.L.C.*, 115 FERC ¶ 61,132 at P 22 (2006) (“Billing on the basis of marginal costs ensures that each customer pays the proper marginal cost price for the power it is purchasing. It therefore complements and reinforces PJM’s use of LMP to price electricity. Moreover, by changing to the marginal losses method, PJM would change the way that it dispatches generators by considering the effects of losses. As a result . . . the total cost of meeting load would be reduced.”).

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

energy against which they then can make their energy purchase, sales and investment decisions. Charging for losses at the marginal value means that, on average, more revenues are collected than are needed to pay for the actual cost of losses. There is no perfect way to allocate these excess revenues. The principle, however, is that these excess revenues should be allocated to market participants in a manner intended to not adversely affect operating decisions, most specifically of generators bidding into the market. As FERC stated, “the *only fundamental principle* to be applied is that the distribution should in no circumstance be based on the amount paid for transmission line losses, because that would distort the appropriate price signals which the use of marginal line loss pricing is designed to facilitate.”⁷ In the case of PJM, these excess revenues were allocated in the form of TLCs to those entities – primarily load – that paid for transmission service. FERC ultimately determined that because UTC traders paid for a transmission reservation, they would also be eligible to receive a portion of the TLCs based on UTC transactions that cleared the market.⁸

TLC allocations vary significantly on a daily basis. Figure 1 below provides a graphic of daily TLC allocations per MW from May 29, 2010 through August 19, 2010.⁹ During this period, average daily per-MW TLC allocations ranged from approximately \$0.70 up to \$2.10. For the period of May 29 through August 19, 2010, the average TLC allocation was \$1.25 with a standard deviation of \$0.32.¹⁰ Moreover, because TLCs originate from over-collection of

⁷ *Black Oak II*, 125 FERC ¶ 61,042 at P 37 (emphasis added; footnote omitted).

⁸ *Black Oak III*, 126 FERC ¶ 61,164 at P 15.

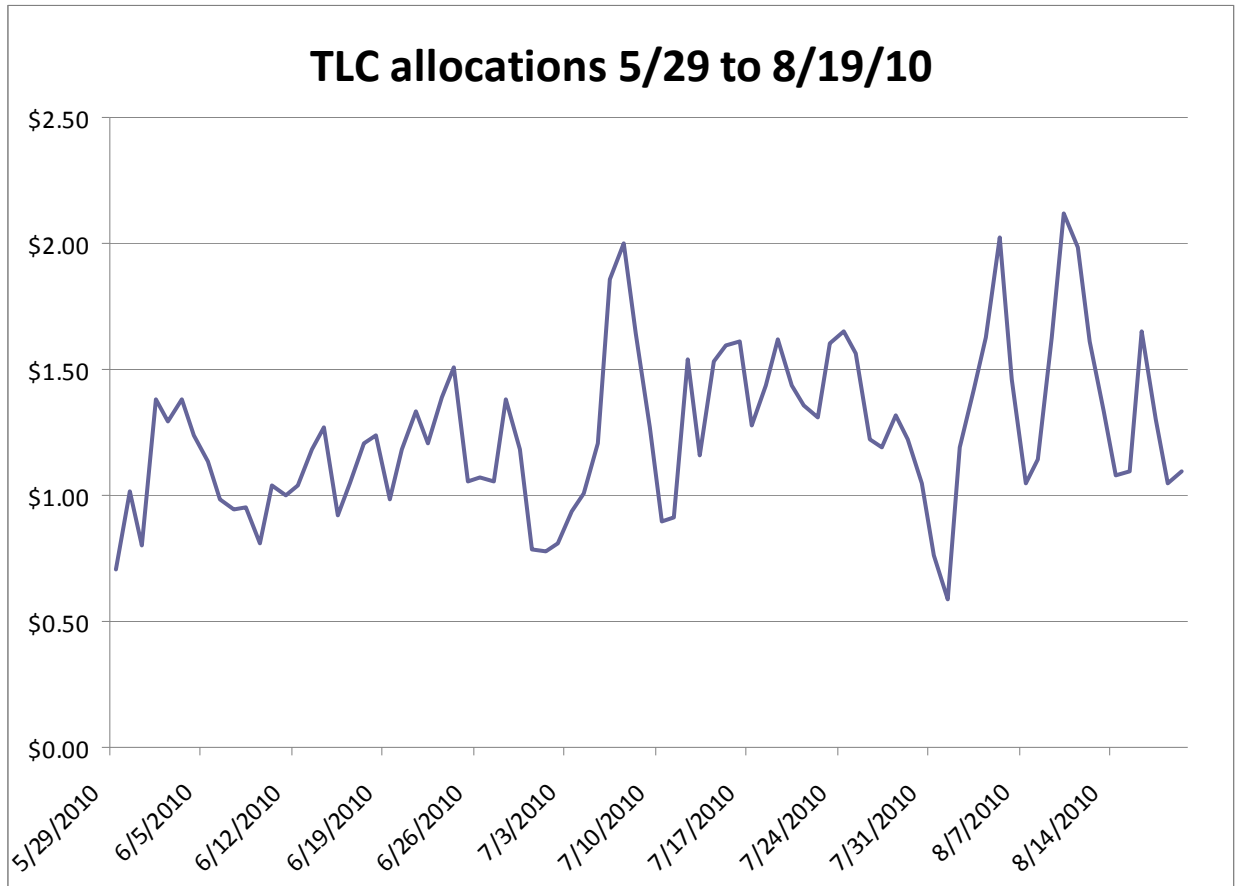
⁹ While TLC allocations also vary significantly on an hour-by-hour basis, hourly TLC allocation data is not publicly available.

¹⁰ The standard deviation is a measure of the variation of the data about the mean. One standard deviation on either side of the mean is an indication that 34.1% of the values lie above and 34.1% lie below this value. As can be

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

transmission line losses that are based on marginal line loss rather than average line loss, the amount of the hourly over-collection – and thus the amount of the TLC allocation – was unknown to traders until after the deadline for placing UTC bids had passed. Thus, a trader, including Dr. Chen, cannot know in advance whether the TLC allocation would be less than, equal to, or greater than the costs associated with placing an individual UTC bid.

Figure 1



seen from the standard deviation in the allocation of TLCs, there was significant variation during the period reported.

Section II: Theoretical And Practical Incentives Created By TLC Allocation To Virtual UTC Transactions

The Decision To Allocate TLCs To Virtual UTC Transactions That Cleared The Market Necessarily Created An Incentive To Engage In High-Volume UTC Transactions

The decision to allocate TLCs to virtual UTC traders created a market signal. To the trader, payments for transmission and other costs are fixed, per MWh per trade. Receiving a credit from transmission losses – independent of the size of that credit – reduces the fixed cost per MWh per trade, thus making it possible for a trader to place more trades at the same cost to the trader – increasing the volume of trades undertaken. In short, transactional costs are reduced. At the same time, reducing this transactional friction allows UTC traders to identify additional trading strategies where volumetric increase could provide a higher payoff from low probability events. Because transactional friction is reduced, it is economically rational to pursue such low probability, but high payoff, events more aggressively.

Prior to the advent of TLC allocations to UTC virtual traders, the financial benefits of trading UTCs stemmed from being able to predict the relationship between the day-ahead market prices and the real-time market prices on the two sides of the PJM interface with an adjoining ISO, such as MISO. With the original transaction price structure (\$0.67 per MW per hour for transmission plus an additional \$0.25 per MWh for voltage control, scheduling and black start) there were only a finite number of UTC positions that a trader could afford to take on a regular basis. Allocation of TLCs fundamentally changed the cost of putting on UTC bids. Where previously the cost of a transaction was \$0.92 per MWh, the cost (netting out the benefit of the TLC) now ranges from \$0.22 per transaction to a point at which the trader is *being paid* \$1.18

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

per MWh for each trade. When the cost of transactions were dramatically reduced, as occurred with the advent of receipt of TLC allocations, virtual traders gained the ability to change their strategies to increase their trading positions in terms of the number of positions taken, the volume of individual positions or the types of trades, or any combination thereof.

There are undoubtedly multiple ways in which traders could modify their likelihood of profit in the market given this change in the cost of transactions and associated risk profile. With allocation of TLCs, it now became possible to focus attention on strategies whereby volume (in both number of trading positions and the size of the positions) became far less expensive.

Given that individual trading positions could be put on at a very small cost or even a credit (after all of the allocations and costs had been netted), it became possible to consider putting on large trading volumes that were conditional upon the magnitude of the day-ahead price spread. The UTC product allowed for precisely this strategy when the cost of the transaction was minimized (or turned into a credit) due to the TLC allocation. In other words, the TLC allocation allowed UTC traders to make large volume trades even when the trader believed that the TLC allocation would be less than the fixed cost of the trades, *i.e.*, lose a little bit of money because the potential return exceeded the costs of the trades. By placing UTC bids in both directions between two points with the same positive cap, the trader could guarantee that one bid will fail to clear the market while the other bid clears in the unlikely event that congestion exceeds the set cap. The goal of the strategy was to “hit the home run” on the spread: not to make a small amount of money on every position but rather to make a significant amount of money when the pre-specified condition occurred. The pre-specified condition would occur when transmission congestion in the day-ahead market exceeded the cap set by the trader. This

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

might have been a cap at \$50/MW, the maximum that was allowed by PJM rules, or a cap at half this amount (\$25/MW). With transaction costs reduced or even eliminated, the trader could put on larger volumes more often in the hope of “hitting the home run.”

Why could one “hit the home run?” The answer is that with the net reduction/elimination of the transaction costs, it was possible to put on UTC positions that would essentially cancel each other out *unless the condition was met*. Placing a UTC bid into PJM with a cap of \$25/MWh and simultaneously placing a UTC bid out of PJM at the same positive cap would cost little (or provide a small net return) if the cost of congestion in the day-ahead was less than \$25/MWh.¹¹ As soon as the cost of congestion exceeded \$25/MWh, the into PJM position would fail (and there would be no TLC allocation), but the into MISO position would clear because it also has a *positive* cap.¹² Under these circumstances, the trader would hold a counter flow spread position in the day-ahead market and would then profit, or not, in real-time as a function of whether the real-time price for congestion into MISO from PJM was higher or lower than the position the trader holds – the traditional spread transaction. The TLC allocation minimizes the cost to the trader of waiting for the high day-ahead congestion event (and thus the spread position) to occur.

This transaction differs from the original one-way spread transaction in that the trader now knows that the spread will *only* be operational (profit or loss) under the *condition* that the

¹¹ It is important to note that there is no specific reason in this strategy or this example that individual transactions need to be paired, even imperfectly. Busses close to the border with MISO will tend to co-vary and certainly do so within the range of the cap that any trader is likely to put on. Taking it one step further, if one were to consider putting an identical position in place randomly from every PJM bus to MISO, and the reverse position randomly from MISO to every PJM bus, the result would be numerically perfect pairing even though the individual busses and their values would be significantly different.

¹² See Appendix A for additional explanation of why one bid always clears where two bids are entered with positive caps, one in each direction between two nodes.

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

congestion is greater than the cap that the trader has chosen – in this instance \$25. The trader requires two additional pieces of analytic information before initiating this strategy. The first is the probability that at any given cap, one of the UTC positions will fail (MISO to PJM or PJM to MISO). The second is the probability that if a position fails (say the cap is exceeded from MISO to PJM in the day-ahead market), that the congestion in the real-time market will be less than it was in the day-ahead market. Both probabilities are calculable.

The trading strategy is more easily described than it is implemented. The reason is that while the probabilities are calculable, the case in which the UTC bid will fail has an extremely low probability of occurring and results from an event that is not predictable as to when and where it will occur (*e.g.*, loss of a transmission line due to a lightning strike). The only way to improve the probability that the trader has UTC bids in place at the time the event occurs is to hold positions for every hour. Moreover, if you set the cap at \$50, the probability of the bid failing is lower than if you set it at \$25, and the probability is non-linear between the two. The critical consideration in deciding to lower caps is whether congestion will reduce in the desired direction between the day-ahead and real-time or instead will increase, in which case the trader will end up losing money. This point is captured in the analysis of what occurs when there is a congestion spread in the day-ahead greater than the cap value. The critical issue is whether experience (and analysis) has shown that where day-ahead spreads are large, the real-time spread tends to be less. The theory of market operations says that market transactions (without an external physical event) will work to reduce the cost of congestion between the two market periods.

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

The “home run” strategy described above is precisely that: a strategy to profit from rare but very profitable events, much as the slugger may swing for the wall on every pitch, seeking the home run, but strike out nine times out of ten (or worse). To consider implementation of such a strategy requires that the trader be capable of solid statistical analysis and be experienced in the market. The risk of never hitting the “home run” is extremely high. Only under the condition in which the cost of setting the UTC positions is very low can one consider such a strategy and thereby wait for the fast ball in the center of the plate (in this case, put on UTC trades in each hour awaiting the rare conditions in which congestion exceeds the cap specified by the trader in the UTC bid). Such a strategy is rational economic behavior where transactional costs are low to non-existent.

As is clear, the “home run” strategy does not require a TLC; it requires low transactional friction. Were there no costs associated with putting on a virtual UTC transaction, there would be more transactions of many types and along many strategies that would take advantage of the volume of positions as opposed to precision on each individual transaction. The strategy described above is one that structures risk around the condition that exists when and if a directional UTC bid fails. As such, the strategy accepts the risk that the event will never occur and simultaneously the risk that when and if it occurs, the real-time market will not converge relative to the day-ahead market. Those risks both become acceptable because the pay-out – the “home run” – is more than sufficient to cover the transactional costs, the opportunity cost associated with funds tied up in the transactions, and the administrative and time costs of the traders involved.

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

In summary, from the perspective of the UTC trader, the allocation of the TLC provides an incentive to the UTC trader to increase the volume of trades. The only certainty of the TLC is that it will be a positive number. Because it is a positive number related to transmission reservations, it is related to the number of MWs of UTC transactions cleared each hour rather than in any way to the profit or loss from each individual UTC transaction. As a result, the market impact of TLCs on the UTC trader manifests as a direct reduction in the cost of the UTC transaction. This reduction in *transactional friction* is precisely the effect that occurred with the advent of the allocation of TLC monies to traders bidding UTCs. Reduced transactional friction provides an incentive for traders to identify and implement trading strategies whereby they can benefit from greater numbers of trades – where there is a potentially large (or very large) benefit possible from a low probability event.

Traders in all markets are financially rewarded for identifying precisely such strategies. These strategies, as in this case, are within the rules of the market and are, as in this case, neutral or positive with respect to the operation of the market itself.

It Would Harm The Market If Traders Are At Risk for Disgorgement And Penalties By Engaging In Trading That FERC Acknowledged Would Occur, But Failed To Prohibit.

In 2008, FERC denied the complaint of several virtual traders, or arbitrageurs, who sought to either be relieved of the obligation to pay marginal line losses in locational energy

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

prices or be allocated a portion of the TLCs.¹³ In rejecting a TLC allocation for virtual traders, FERC stated:

Paying excess loss charges to arbitrageurs also is inconsistent with the concept of arbitrage itself. The benefits of arbitrage are supposed to result from trading acumen in being able to spot divergences between markets. As stated above, arbitrageurs create their own load by the volume of their trades. ***If arbitrageurs can profit from the volume of their trades, they are not reacting only to perceived price differentials in LMP or congestion, and may make trades that would not be profitable based solely on price differentials alone.***¹⁴

Thus, FERC fully anticipated that allocating TLC revenues to virtual traders would create an incentive for traders to profit by “trades that would ***not be profitable*** based solely on price differentials alone” – that is, transactions that would not be economic but for the TLC allocation. Nevertheless, FERC granted rehearing and held that traders that paid for transmission and engaged in cleared UTC transactions must receive a TLC allocation, since they too contributed to the fixed costs of the transmission grid.¹⁵ In that rehearing order, FERC again acknowledged that permitting virtual traders to receive TLC payments could create “an incentive for arbitrageurs to engage in purchase decisions, not because of price divergence, but simply to increase marginal line loss payments”¹⁶ but did not prohibit such trading.

¹³ *Black Oak Energy, LLC v. PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,208 (2008) (“*Black Oak I*”).

¹⁴ *Id.* at P 51 (emphasis added).

¹⁵ *Black Oak II*, 125 FERC ¶ 61,042 at P 49.

¹⁶ *Id.* at P 43.

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

As explained above, trading strategies developed in response to reduced transactional friction due to the TLC allocation constitute rational economic behavior. In addition, having predicted that allocating TLCs to virtual traders would result in volume-based transactions that would be uneconomic but for the TLCs, and then authorizing the TLC allocation to virtual traders anyway, FERC treatment of such transactions as market manipulation now would harm the energy market. Electric energy markets are no different from markets of other commodities, though in the past they may have tended to be more heavily regulated. Traders enter markets knowing the regulatory rules and working their strategies within those rules. It is often stated that the ability to estimate and operate within a structure of financial risk (hedging) is the critical characteristic that differentiates successful from unsuccessful traders and trading entities. A second risk that may be equally critical is that of regulatory risk. The role that traders can play in all markets is improving liquidity and price transparency. They count on regulatory stability in making decisions. Living by the regulatory rules assures the trader that if there are legitimate profits to be made through wise transactions, those profits will be kept. In an environment of regulatory uncertainty – one in which the rules are in flux or the interpretation of those rules changes – the trader becomes wary of the market and perceives what can be called “increased transactional friction.” This represents a price (monetized or not) that the trader perceives must be paid to stay in the market. In behavioral terms, it may be a rule change that prevents a structured transaction from being profitable. In more concrete financial terms, it may be a total change in direction on the part of the regulatory body by which, *ex post*, a set of transactions that were within the rules are now transactions subject to clawback of revenues and penalties. When market participants and traders perceive a regulatory environment with significant transactional

friction, the number of trades is reduced with a consequent loss of both liquidity and price transparency. Markets without liquidity and price transparency are no longer functional and often cease to be traded. While there may never be complete regulatory certainty, there needs to be regulatory consistency if there is to be a well-functioning market.

**The Market Was Not “Well-Functioning” When It Allocated TLCs To
Virtual Traders That Did Not Need Transmission Service.**

UTC trading grew, as was discussed earlier, as a hedging mechanism for physical traders who needed to cap their risk incurred to move energy between markets such as PJM and MISO. These trades were physical in nature in that the participants purchased (bilaterally) a quantity of energy in MISO for sale (often bilaterally) in PJM. Their uncertainty was in the cost of the congestion since they had to reserve the transmission ahead, but would not know the cost of congestion until after the transaction was in place. The UTC structure provided the answer: the ability to complete the transaction up-to a congestion price of \$X. PJM put a ceiling on the price at \$50, but this is largely irrelevant since the physical trader would know the maximum value of congestion that the transaction could carry.

The UTC product provided a logical trading product for a virtual trader. Virtual traders used the UTC product with the same rules as existed for the physical trader, namely that they reserve – and pay for – transmission. This represented a significant cost for the UTC virtual transactions and undoubtedly affected the number of such positions put on. That said, however, virtual transactions are precisely that: virtual. No energy was transmitted in virtual trades; there was no need for reserved transmission, voltage support or black start support. Logic would

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

dictate that virtual trades should carry no physical requirements since they would be cleared in, or before, real-time.

The legacy remained, however, and virtual UTC trades continued to require transmission reservations. Given that these transactions paid for transmission, the argument made in the *Black Oak* cases was that traders such as Black Oak should receive a portion of the TLC allocation given that those traders through their payment of transmission charges paid their share of the transmission fixed charges. In *Black Oak I*, FERC rejected the argument. In *Black Oak II*, FERC reversed itself, finding that virtual UTC trades should receive part of the TLC allocation.

From the perspective of logic and good market design, where charges are intended to cover real costs, the case of the TLC allocation to virtual UTC traders is one of “can two wrongs make a right?” If it was illogical for TLC traders to be paying transmission reservation charges, did allocating part of the TLC to those same players correct for the earlier error? Given that the FERC has now reversed itself a second time by accepting in 2010 PJM’s proposal to eliminate the requirement that UTC trades reserve transmission service (and thus eliminating TLC allocations to UTC transactions), the answer is certainly *no*.

The market was not well-functioning in 2008 when virtual UTC traders were required to pay to reserve transmission. It was not well-functioning in 2009 when virtual traders were allocated a part of the TLC. The logic of the changes to PJM’s tariff adopted in 2010 is that, from a market design perspective, UTC traders are paying for what they use and not paying for what they do not use. In the period between 2009 and 2010 when the rules changed, UTC traders may have been trading in a market that was not well-functioning, but they were playing by the rules of that market.

Powhatan Paid For Transmission Service And No Other Market Participant Is Entitled To The TLCs It Received In Return.

As discussed above and in Appendix A, in questions of allocation, there is never a singular right answer. The general objective, and that of the Commission, in allocating TLCs was that “the *only fundamental principle* to be applied is that the distribution should in no circumstance be based on the amount paid for transmission line losses, because that would distort the appropriate [economically correct] price signals which the use of marginal line loss pricing is designed to facilitate.”¹⁷ UTC traders received a TLC allocation based on the MWh of cleared UTC transactions associated with transmission reservations that they paid for.

The TLC allocation is not a market. It is an allocation of excess revenues. The decision as to how to allocate these revenues fulfilled the objective of FERC in that the TLCs were allocated to those entities that paid for transmission fixed costs and were not allocated to entities in a manner that could affect LMP prices. As FERC indicated, no other party has a claim to the TLCs allocated to Powhatan because Powhatan paid a portion of the fixed cost of the transmission grid, and the “fundamental principle” underlying the allocation dictates that “no party within PJM is entitled to receive any particular amounts” through the TLC allocation.

¹⁷ *Black Oak II*, 125 FERC ¶ 61,042 at P 37 (emphasis added; footnote omitted).

Section III. Dr. Chen's UTC Bidding Strategies.

**Dr. Chen's Trades Were Intended To Seek Profit On Price Spreads
Between Two Nodes While Mitigating Transaction Costs With TLC
Revenues.**

I have reviewed records recently provided by Dr. Chen regarding his UTC transactions on behalf of Powhatan during the May through August 2010 period. There were five (5) categories of transactions:

- (1) Directional UTC transactions between an interface node and one node within PJM (*e.g.* MISO to Greenland, Mt. Storm to MISO);
- (2) Transactions in opposite directions between the same two nodes at the same MWh volume and bid at a +\$50/MWh congestion cap in both directions (*e.g.* 10 MW from MISO to Mt. Storm bid at the +\$50/MWh maximum cap and 10 MW from Mt. Storm to MISO bid at the +\$50/MWh maximum cap);
- (3) Transactions in opposite directions between the same two nodes at the same MWh volume, but bid at a congestion cap of *less* than the +\$50/MWh maximum cap (*e.g.* 10 MW from MISO to Mt. Storm bid at a +\$25/MWh cap and 10 MW from Mt. Storm to MISO bid at a +\$25/MWh cap);
- (4) Transactions in opposite directions between the same two nodes at *different* MWh volumes, but bid at the +\$50/MWh maximum cap in both directions (*e.g.* 10 MW from MISO to Mt. Storm bid at the +\$50/MWh maximum cap and 5 MW from Mt. Storm to MISO bid at the +\$50/MWh maximum cap); and
- (5) Transactions in opposite directions between the same two nodes at *different* MWh volumes and bid at a congestion cap of *less* than the maximum +\$50/MWh cap in both directions (*e.g.* 10 MW from MISO to Mt. Storm bid at a +\$25/MWh cap and 5 MW from Mt. Storm to MISO bid at a +\$25/MWh cap).

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

Dr. Chen stated that two-thirds of Powhatan's UTC transactions were bid with a congestion cap of *less than* the +\$50/MWh maximum cap. This fact is critical to understanding the trading strategy and the risk profile that Dr. Chen employed during this period.

It is obvious that had Dr. Chen's objective been solely to "harvest the TLC," he would have behaved significantly differently from the actual behavior the trading records show. To implement a "harvesting" strategy, the objective would have been to always set the bids at equal volumes and to have always set the cap at the PJM maximum of \$50/MWh. This would have reduced the probability that a net spread position in either direction would occur, though as explained above, setting the cap at \$50/MWh could never eliminate the possibility of a net directional spread occurring should congestion exceed \$50/MWh and only one bid clear.

As indicated by the categorization of the five trading types listed above, Dr. Chen was not trading for the TLC revenues but was instead using the TLC revenues, netted against the transaction costs, to be able to more frequently (and in greater volume) undertake a strategy of "swinging for the wall with every pitch." In section 2 of this affidavit, I discussed in detail the "home run" strategy that was based on knowledge and analysis, logical, legitimate and, most clearly, profit seeking. While one might argue that there were positive revenues attributable to simply placing the trades based on the net of cost against TLCs, the real profits to be had were from the low probability event, the "home run," that Dr. Chen was seeking.

Type one above represents the standard spread transaction undertaken by UTC traders. Transactional risk was hedged primarily by trader knowledge of the market. The other four of the five transaction types listed above, and identifiable in Dr. Chen's trading records, sought a profit well beyond that achievable by "harvesting" the net of the uncertain TLC allocations and

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

the transaction costs, and carried a very different risk profile. Underlying these four transaction types was the opportunity to capture the large pay-out event. Two of the four transaction types exhibited the pure “home run” strategy but with a very significant difference and risk profile. In type two above, the probability of losing a UTC position was as low as possible given that the cap was set at the PJM maximum of \$50/MWh. Type three above is quite different. In this type of transaction in which the cap is less than \$50/MWh (and it varied as low as \$25/MWh), the trader is both “learning” the behavior of the risk associated with a different cap and looking for a broader spread to the opportunity to “hit the home run.” While a bid with a cap of \$25/MWh will have a greater probability of being rejected, the reciprocal bid with a \$25/MWh cap that always clears in the opposite direction will also have a greater probability of losing money if and when there is divergence, rather than convergence, between the day-ahead and real-time markets. At the same time, however, it should be obvious that setting the cap at, say \$25/MWh, will also allow for the “home run” at \$49 or \$200.

The final two types of transactions above are hybrids. In both cases, the trades are a mix of traditional spread trading (the asymmetric volume) and the “home run” bidding (the paired volume).

The five transaction types are focused on different characteristics within trading UTCs in the overall PJM energy market. Each has a very different risk reward profile. This difference in the profiles of the individual categories, when blended hourly, daily or monthly, allowed the trader to develop a portfolio risk profile that could vary as knowledge and experience were gained. What made this process work and allowed Dr. Chen to trade in larger absolute volumes

with clearly different strategies was the fact that the transactional friction – the cost of the individual trades – was vastly reduced with the allocation of TLCs to virtual UTC traders.

Powhatan's UTC Transactions Had No Negative Impact On The Energy Market.

Underlying the questions and challenges to the bidding strategies that have been discussed in this affidavit is the question of harm to the PJM energy market. Harm could occur in one of several manners, but certainly the most significant is that the actions of the trader affected the structure of trading that took place in the market, or that the actual trades themselves were manipulative, causing others players in the market to behave in a manner that did not respect the basic economic structure of the market itself. In the case of Dr. Chen's transactions, responding to the fact that the transactional friction of engaging in UTC trades was lessened or removed by the allocation of TLCs to cleared UTC trades did not cause harm to the market. The actions of those who responded to the change in transaction costs did nothing to affect the structure of the market other than to increase the volume of virtual trades. These traders also had no impact on other traders trading UTCs or trading in other elements of the PJM energy market. At a minimum, this increase in volume had no impact of any kind; to the positive, it might have provided additional price transparency.

The second question concerning possible harm is whether, in the process of undertaking these transactions, the trader made unwarranted profits by flagrantly violating the rules of the market. Certainly this was not the case here, because all of Dr. Chen's trades were totally transparent through the PJM system.

Conclusion

The conclusion that must be reached from an analysis of the UTC transactions undertaken after introduction of the TLC allocation to cleared virtual UTC transactions is that Dr. Chen's response was predictable and logical under economic theory. If we believe in economic man (and woman), economic incentives affect economic behavior.

In the instance of the UTC trades, there was no market manipulation, only response to economic signals. Dr. Chen responded logically and economically correctly to an environment in which the transaction costs – the transactional friction – of putting on UTC transactions had been dramatically reduced, and in which there were known and demonstrable low probability, unpredictable but high pay off outcomes – the “home runs” – that could be targeted with high volumes of bids across many hours.

In addition, and critically, there was no harm to the market caused by Dr. Chen's transactions. At worst, the impact was neutral to the functioning of the energy market in PJM. At best, it was positive through increased liquidity at the PJM boundaries and through increased price discovery.

Appendix A: Fundamentals of UTC Transactions

Up-To Congestion (UTC) transactions are bids submitted into the PJM day-ahead energy market between two nodes. The UTC bids include a cap on the maximum amount of day-ahead congestion that the bidder is willing to pay in terms of the difference in the nodal energy price in the day-ahead market. Congestion occurs when there is insufficient transmission capacity available from Point A to Point B to accept all desired transactions from Point A to Point B. Congestion is calculated as the day-ahead sink node (Point B) LMP minus the day-ahead source node (Point A) LMP. Importantly, congestion is always one-directional; that is, if a path between two nodes is congested (*i.e.* day-ahead sink LMP minus day-ahead source LMP is a positive number) in one direction from Point A to Point B, then the path will be uncongested (day-ahead sink LMP minus day-ahead source LMP is a negative number) in the opposite direction from Point B to Point A.

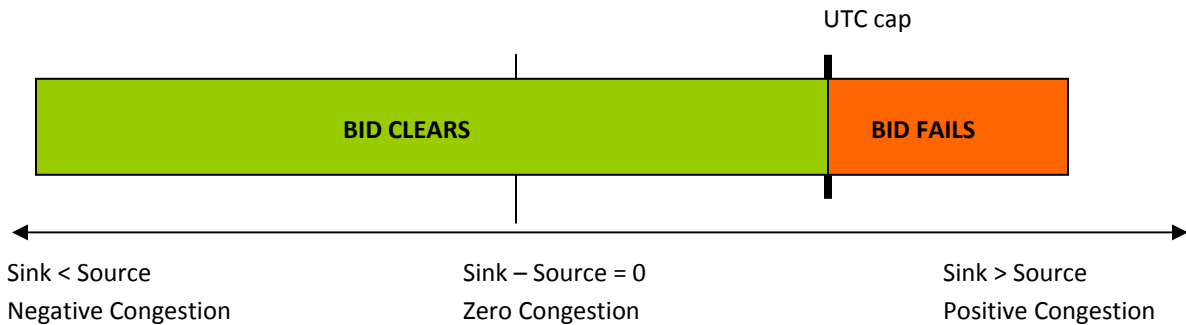
UTC transactions must always make use of at least one external interface node, and PJM maintains a list of source/sink combinations that are available for UTC transactions.¹⁸ PJM's market rules stipulate that the cap on day-ahead congestion in a UTC transaction may not be greater than +\$50 per MWh nor less than -\$50 per MWh.¹⁹ The original design of the UTC bid structure allowed physical suppliers of energy into (or out of) PJM to place a ceiling on the directional amount of day-ahead congestion they were willing to pay. Similar to other elements of the PJM energy markets, the UTC bid process spawned an active "virtual" bid process.

¹⁸ PJM Manual 11 at § 2.3.4.

¹⁹ PJM Manual 11 at § 2.3.4.

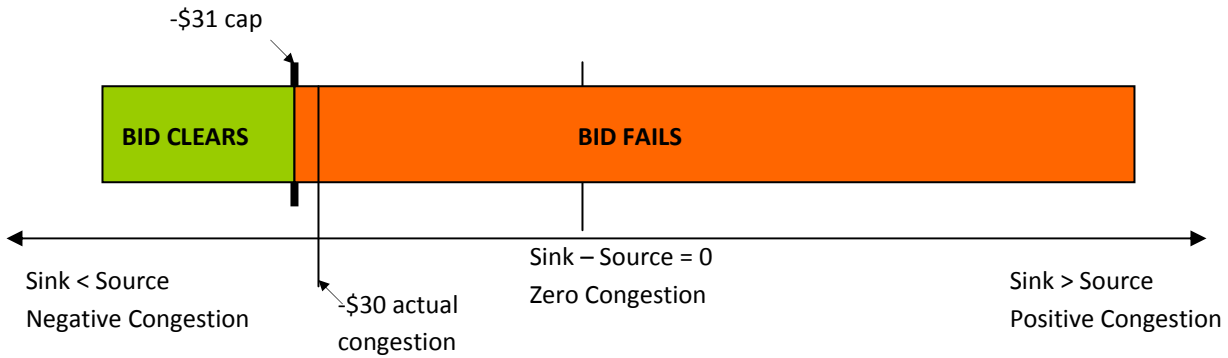
**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**

As an example of a UTC transaction, assume that the UTC transaction is to involve two nodes: the MISO interface node as the source and Mt. Storm node within PJM as the sink. Assume also that the trader bids a cap of +\$50/MWh. At 4PM of the day ahead, PJM announces a day-ahead LMP for MISO of \$20 and a day-ahead LMP for Mt. Storm of \$50. For this UTC transaction, the day-ahead congestion is calculated as $\$50 - \$20 = \$30$ (day-ahead sink LMP less day-ahead source LMP). Because \$30 is less than the trader's \$50/MWh cap, the UTC transaction clears the day-ahead market. If instead the trader had bid a +\$25/MWh cap, the transaction would fail to clear because the \$30 congestion is greater than the +\$25/MWh cap. This concept can be expressed graphically as follows:



Now assume that the trader instead bids in the other direction, with Mt. Storm as the source node and MISO as the sink node. The trader bids at the +\$50 per MWh cap. As above, the day-ahead LMP at MISO is \$20 and the day-ahead LMP at Mt. Storm is \$50. The trader's day-ahead congestion cost (day-ahead sink LMP less day-ahead source LMP) is now *negative* \$30. The bid clears the market because -\$30 is less than +\$50. Importantly, even if the trader lowers the bid cap to +\$25/MWh, as in the prior example, the *transaction still clears* because -\$30 is less than +\$25. In fact, the trader would have had to bid a cap of at least *negative* \$31/MWh before the transaction would fail to clear in this example.

**Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20**



Thus, a UTC transaction from Node A to Node B is *never* the equivalent of a UTC transaction from Node B to Node A. The likelihood of clearing the market is different for each transaction because congestion in one direction is a positive number, while the lack of congestion in the other direction is always represented by the reciprocal *negative* number. Thus, bidding the same cap for transactions in opposite directions guarantees that one of the bids will *always* clear.

Appendix B: Resume

RICHARD D. TABORS
Vice President

Ph.D. Geography and Economics,
The Maxwell School,
Syracuse University

M.S. Social Sciences,
Syracuse University

B.S. Biology,
Dartmouth College

Richard D. Tabors, Vice President, is an economist and scientist with 35 years of domestic and international experience in energy markets, planning and pricing. He is a member of the group at MIT that developed the theory of spot pricing upon which locational marginal pricing (LMP) of electricity and transmission rights markets (such as FTRs) are based. Prior to joining Charles River Associates, Dr. Tabors was a president and founder of Tabors Caramanis & Associates. Dr. Tabors is working on the restructuring of the U.S. and international electric supply industry, where he provides expert testimony and works with clients on restructuring efforts at the state, provincial, regional, and federal levels in the United States and Canada, as well as in the United Kingdom. He has spent 30 years on the faculty and research staff of MIT where until 2006 he a senior lecturer in technology and policy and Assistant Director of the Laboratory for Electromagnetic and Electronic Systems (MIT's Power Systems group) He is also a visiting professor of electrical engineering at the University of Strathclyde, Glasgow, Scotland.

EXPERIENCE

- 2004–Present *Vice President*, Charles River Associates
- 2004-2007 *Co-Head*, Energy & Environment Practice, Charles River Associates
- 2004–Present *Visiting Professor of Electrical Engineering*, University of Strathclyde, Glasgow, Scotland
- 1986–2006 *Senior Lecturer*, Technology and Policy Program, Massachusetts Institute of Technology (MIT)
- 1988–2004 *Founder and Principal*, Tabors Caramanis & Associates, Inc.
- 1989–1998 *Lecturer*, Department of Electrical Engineering and Computer Science, MIT
- “Introduction to Power Systems Operations and Planning.”
- 1992–1998 *Senior Research Engineer*, Laboratory for Electromagnetic and Electronic Systems, MIT

-
- 1985–1998 *Assistant Director*, Laboratory for Electromagnetic and Electronic Systems, MIT
- Responsible for laboratory administration and research in power systems economics and planning, research on power systems monitoring and control, principal investigator on research program in performance based monitoring and control.
- 1990–1993 *Principal Research Associate*, MIT
- Co-Faculty “Planning for Water and Sewerage” and “Dealing with the Complete System,” MIT Summer Session.
- 1984–1989 Co-Faculty “Power Systems Planning & Operation: Methodologies for Dealing with an Uncertain Future”, MIT Summer Session.
- 1978-1988 *Lecturer*, Department of Urban Studies and Planning, MIT
- 1973-1988 *Principal*, Meta Systems
- Head, utilities group in power systems planning, pricing and systems analysis
- 1985–1987 *Faculty*, Course 11.944, Department of Urban Studies and Planning (co-taught as KSG S115 with P. Rogers) “Energy Sector Planning in Developing Countries.”
- 1971–1976 *Research Associate and Member*, Center for Population Studies, Harvard University
- Research on resource and environmental planning in developing nations of South Asia and Africa.
- 1978–1984 *Program Manager*, Utility Systems, MIT Energy Laboratory
- Economic and systems research and development in electric and gas utility systems; including the integration of new generation systems (photovoltaics) into the grid.
- 1979-1983 *Project Manager and Principal Investigator*, Electric Generation Expansion Analysis System (EGEAS) Project, under contract to EPRI, MIT Energy Laboratory.
- 1977-1982 *Project Manager and Principal Investigator*, Photovoltaics Project, under contract to U. S. Department of Energy, MIT Energy Lab.
- 1976-1977 *Economist*, Photovoltaics Project, MIT Energy Laboratory and Lincoln Laboratory.
- 1976-1977 *Energy Economist*, New England Energy Management Information Systems (NEEMIS), Energy Laboratory, MIT.

-
- 1974-1976 *Assistant Professor of City and Regional Planning*, Harvard University.
- 1973-1976 *Research Fellow*, Environmental Systems Program, Division of Engineering and Applied Physics, Harvard University.
- 1971–1977 *Co-Faculty*, with Professor R. Revelle, Natural Science 118, & 119, Human Population and Natural Resources, and Population & Environment and in Urban Setting, Harvard University.
- 1973-1974 *Lecturer on City and Regional Planning*, Graduate School of Design, Harvard University.
- 1971 *Resident Representative*, Harvard University, East Pakistan (Bangladesh) Land, Water and Power System Study, Dacca, East Pakistan.
- 1970 *Graduate Administrative and Teaching Assistant* to A. K. Campbell, Dean, Maxwell Graduate School of Citizenship and Public Affairs, Syracuse University.
- 1969–1970 *Syracuse University Intern*, Economic Division, USAID Pakistan.
- Informal advisor on Regional Economic Planning to the Urban Development Directorate, Planning Department, Government of East Pakistan (Bangladesh).

CONSULTING EXPERIENCE

- Provided expert testimony and case strategy support to international energy supplier in area of market operations and market manipulation before the US 9th Circuit in California (2008 – Present)
- Provided expert testimony to major international independent power producer in arbitration on cost responsibility for station power (2009 – Present)
- In cooperation with Merrill Energy, provide expert advice on implementation of legislation to recover capital cost of transmission investment in Peru.
- Direct and provide consulting advice to the Federal Electricity & Water Authority in the United Arab Emirates on corporate reorganization. (2007-Present)
- Provide expert testimony to major US independent power producer in arbitration with steam host. (2007 – 2009)
- Direct and provide expert services and consulting advice to Electricite du Liban on revenue recovery through development of AMI systems. (2006 – Present)
- Direct and provide consulting services to Electricite du Liban on restructuring of distribution services. (2006 – Present)

-
- Provide expert testimony in multiple contract disputes between bankrupt Independent Power Producer and power marketer. (2004 – 2006)
 - Provide expert analytic assistance to Private Equity Fund on purchase of generation assets within the United States (2006- 2007).
 - Member, Board of Directors, NeuCo Corporation.
 - Direct and provide consulting services to Abu Dhabi Water and Electricity Authority on distribution system performance. (2003–2005)
 - Direct and provide expert testimony on the development of the MidWest Independent System Operator. (2002–Present)
 - Direct and provide expert testimony on long-term contract market in California. (2002–Present)
 - Direct and provide expert testimony in purchase, contracting and regulatory approval of Midwestern transmission system. (2002–2003)
 - Direct and provide expert testimony in 9-billion dollar California Electric refund case (2001–Present)
 - Direct and provide expert testimony and consulting to major U.S. market and generator in the redesign of the California electricity market. (2002–Present)
 - Member of the Blue Ribbon Task Force on design of electricity auctions of the California Power Exchange with Alfred Kahn, Peter Cramton and Robert Porter. (2000–2001)
 - Member, Board of Directors of Dynamic Knowledge Corporation, Glasgow, Scotland. (2001–Present)
 - Consultant to more than 20 power development companies for evaluation of locational value of new generation and transmission. (1999–Present)
 - Consultant to and member of Technology Advisory Board, Excelergy Corporation, development of utility billing and system auction software. (1999–Present)
 - Consultant to a Midwest utility for development of transmission congestion pricing structure. (1999–2001)
 - Consultant to transmission asset development team of major U.S. corporation. (1999–2000)
 - Consultant to and member of advisory board of Altra Energy Systems, electronic trading software and platform development company for electronic trading of electricity. (1998–2001)
 - Consultant to major U.S. paper manufacturer for federal regulatory change required to interconnect a new co-generation facility. (1998–2000)

-
- Consultant to major Midwest utility in the development of an independent transmission company and the required tariffs. (1998–2002)
 - Consultant with Enron Capital and Trade Resources on U.S. electricity restructuring with specific assignments in California, New York, Massachusetts and New England. Includes testimony in California “Blue Book” en banc hearings and participation in California Competitive Power Market Working Group. (1994–2001)
 - Consultant to the Office of the Attorney General, Commonwealth of Massachusetts for Electric Utility Industry Restructuring. (1995–1998)
 - Consultant with Sithe Energy on electricity pricing and electric industry restructuring. (1995–1998)
 - Consultant with Independent Power Producers of New York (IPPNY) on restructuring of electric sector in New York. (1995–1998)
 - Consultant to the Department of the Attorney General, State of Rhode Island and Providence Plantations for electric utility industry restructuring. (1996–1997)
 - Consultant to the New England Competitive Power Coalition providing support for development of a blueprint for restructuring the New England Power Pool. (1995–1997)
 - Consultant to ABB/Systems Control on transmission pricing and power systems operations. (1994–1997)
 - Consultant to a major western utility for the development of transmission pricing strategies. (1994–1996)
 - Development of real-time pricing strategies and rates for Oglethorpe Power Company, Atlanta, GA. (1995–1996)
 - Consultant on the background to electric industry restructuring to Central Vermont Public Service. (1995)
 - Development of real-time pricing rate response experiments for NYSERDA, EPRI and ESSERCo in ConEd and NYSEG service territories: Response to real-time pricing. (1989–1994)
 - Development of marginal, cost-based, transmission system pricing system for the National Grid Company (NGC) of the United Kingdom. (1991–1993)
 - Development of real-time rate structure and evaluation of customer impacts for Central Maine Power Company. (1990–1991)

-
- Development of purchase and transmission strategy for major U.S. independent power producer. (1990)
 - Conservation and load management analysis and testimony for Boston Gas Company. (1987–1988)
 - Development of Electric Power Systems Consulting Group, Meta Systems Inc. (1985–1988)
 - Variable energy cost/spot pricing studies under contract to Integrated Communications Systems of Atlanta. Utilities included Mid-South and Pacific Gas and Electric, Southern California Edison, Central and South West. (1984-1987)
 - Metcalf & Eddy Engineering, analysis of economic benefits of cogeneration/district heating for Columbia Point housing, Boston Redevelopment Authority. (1984–1985)
 - Value of reliability study for Public Service of New Mexico. (1984)
 - With East-West Center, Honolulu, Hawaii, study of electric futures of northeast Asia, Japan, Korea and Taiwan. (1983–1984)
 - Independent variable energy cost spot pricing studies for Georgia Power, Florida Power and Light, Florida Power Corp., Tampa Electric and Gulf Power. (1983–1984)
 - Petroleum pricing study, Philippines for IBRD. (1983–1984)
 - Lignite pricing for electric power generation, Thailand. For IBRD (1982–1983)
 - Independent, review of electric power futures for combustion engineering. (1982)
 - Consultant, Microwave Associates, Inc., on electric load management and control. (1980-1981)
 - Urban energy impact statement for HUD. (1979–1980)
 - Consultant, Urban Systems Research and Engineering. Projects included: Analysis of Boston wastewater management plan for C.E.Q.; definition of 'modal' urban areas for environmental impact analysis using the EPA developed SPACE/SEAS model; Interceptor project to evaluate the impact of EPA interceptor grants program on land use patterns in suburban and rural areas of EPA Regions 2, 4, 6; Rural growth project analyzing regional development in non-metropolitan multi-county areas in the United States. (1971–1977)
 - Urban systems research and engineering analysis of Boston wastewater management plan for C.E.Q. (1977)
 - Bangladesh energy study for Asian Development Bank and UNDP. (1975–1976)
 - Urban systems research and engineering, definition of model urban areas for environmental impact analysis using the EPA developed SPACE/SEAS model. (1975–1976)

- Land use and environmental quality modeling and case study analysis of land use impacts on water and air quality. Case studies focused on the Mill River basin in the New Haven SMSA. (1974–1975)
- Member, Technical Advisory Panel for Educational Evaluation in Massachusetts, Office of the Commissioner in Education, Commonwealth of Massachusetts. (1973–1974)
- Lake Chad polder development study of agricultural development with low-lift irrigation pumping in the area immediately surrounding Lake Chad. (1974)
- Urban systems research and engineering, interceptor sewer project to evaluate the impact of EPA interceptor grants program on land use patterns in suburban and rural areas of EPA Regions, 2,4,6. (1974)
- Decision-making and flood plain management in the Connecticut River valley, study for New England River Basin Commission. (1973)

FIELDS OF EXPERTISE

- Energy economics / energy pricing
- Power systems operations and planning
- Asset valuation: Generation, Transmission and Generation
- Water and wastewater management
- Corporate strategic planning and analysis
- Corporate reorganization and management

PROFESSIONAL AFFILIATIONS

- Institute of Electrical and Electronic Engineers
- American Waterworks Association
- International Association of Energy Economists
- Energy Bar Association

PUBLICATIONS

Books, Book Chapters, and Monographs

The Definition of Multifunctional Planning Regions: A Case Study of East Pakistan. A report to the East Pakistan Land, Power and Water Study, Harvard University Center for Population Studies, May 1971.

“Preferences for Municipal Services of Citizens and Political Leaders: Somerville, MA, 1971.” With M.A. Vinovskis. *Population Policymaking in the American States: Issues and Processes*, D.C. Heath and Co., May 1974.

The Syracuse Metropolitan Regions: A Background for Paretian Environmental Analysis. Environmental Systems Program, Harvard University (ESP Monograph), September 1974.

Population Policymaking in the American States: Issues and Processes. With Bergman, Elihu, D. Carter, R. Cook, and D. Weir. D.C. Heath and Co., May 1974.

“Framework for the Analysis of State and Local Population Policy.” *Population Policymaking in the American States: Issues and Processes*, D.C. Heath and Co., May 1974.

Interceptor Sewers and Urban Sewers. With Binkley, Collins, Kanter. D.C. Heath and Co., October 1975.

Land Use and the Pipe: Planning for Sewerage. With M. Shapiro and P.P. Rogers. D.C. Heath and Co., November 1976.

“Infrastructure Planning.” In ASPO, *Rural and Small Town Planning*, The Old West Regional Commission, 1978.

“Utility Services.” In So, Stollman, Beal, and Arnold, eds., *The Practice of Local Government Planning*, International City Management Assoc., December 1979.

“Energy Demand Estimation.” With R. deLucia, In Jacoby and deLucia, eds., *Energy Planning in Developing Countries: The Case of Bangladesh*, John Hopkins Press, 1982.

“Traditional/Renewable Energy Sources.” With R. DeLucia. In Jacoby and deLucia, eds., *Energy Planning in Developing Countries: The Case of Bangladesh*, Johns Hopkins Press, 1982.

“Utility Spot Pricing to Coordinate Deregulated Utilities, Customers and Generators.” With R. Bohn and F. Scheppe. In Plummer, Ferrar and Hughes, eds., *Electric Power Strategic Issues: Deregulation and Diversification*, Johns Hopkins Press, 1982.

Electric Generation Expansion Analysis System, Vols. 1 & 2. With M. Caramanis and F.C. Scheppe. With Stone & Webster Engineering, Vols. 3, 4 & 5, EPRI, Palo Alto, CA, Report No. EL-2561, 1983.

“Electrical Utility Load Management Systems.” A.H. El-Abiad ed., *Power Systems Analysis and Planning*, McGraw-Hill, 1983.

“Cogeneration: Ownership and Operating Economics.” A.H. El-Abiad ed., *Power Systems Analysis and Planning*, McGraw-Hill, 1983.

“The New (Alternative) Electric Generation Technologies: An Evaluation of Their Potential.” A.H. El-Abiad ed., *Power Systems Analysis and Planning*, McGraw-Hill, 1983.

“Using Spot Pricing to Coordinate Deregulated Utilities, Customers and Generators.” With R. Bohn, and F. Schewepe. In Plummer, Ferrar and Hughes, eds., *Electric Power Strategic Issues*, Public Utilities Reports Inc., 1983.

“An Approach to Deregulating the Generation of Electricity.” With R. Bohn, B. Golub, and F.C. Schewepe. In Plummer, Ferrar and Hughes, eds., *Electric Power Strategic Issues: Deregulation and Diversification*, Public Utility Reports, 1984.

“Utility Finance and Planning in Japan, Korea and Taiwan.” With M. Castillo-Bonet. In Kim, Smith and Rose, eds., *Electric Futures of Asia and the Pacific*, East West Press Center, Honolulu, 1986.

Electricity in Northeast Asia: The Experiences of Japan, Korea, and Taiwan. Greenwood Press, Westport, CT, 1987.

Spot Pricing of Electricity. With F.C. Schewepe, M.C. Caramanis, and R. Bohn. Kluwer Academic Press, 1988.

Energy Aftermath: How We Can Learn from the Blunders of the Past to Develop our Energy Future. With T.H. Lee and B.C. Ball. Harvard Business School Press, Boston, 1989.

“Transitional Strategies for Emissions Reduction in the Electric Power Sector.” With B. L. Monroe, III. In J. Tester and N. Ferraro, eds., *Energy and Environment in the 21st Century*, MIT Press, 1991.

“Engineering Economic Analysis: Applications to Electric Utility Investment Planning.” In M. Baughman ed., *Engineering Economic Analysis: Overview and Current Applications*, IEEE Tutorial, 1992.

“Unbundling the U.S. Electric Power Industry: A Blueprint for Change.” With Fernando, Kleindorfer, Pickel, and Robinson. Tabors Caramanis & Associates, March, 1995.

Articles and Reviews

“A Preliminary View of Economic Change and Urbanization: Bangladesh 2000.” In Thomas and Lavan, eds., *West Bengal and Bangladesh: Perspectives from 1972*, Asian Studies Center, Michigan State University, South Asia Series No. 21, 1973.

“Urbanization and War: Inertia in Urban Migration in Bangladesh.” Presented to the XXVI Annual Meeting of the Association for Asian Studies, Boston, MA, April 1974.

“Land Values and Public Investment in Urban Fringe Areas: A Case Study of Clay, New York.” With M. Shapiro. Papers and Proceedings of the Northeast Regional Science Association, 1975.

Review of Greenberg et al., “Solid Waste Planning in Metropolitan Regions” in *Annual of Regional Science*, June 1978.

“A Louisiana Case Study: Towards a Single System of Substrate Regions.” With C. S. Binkley. *Growth and Change*, January 1980.

“Homeostatic Utility Control.” With F. C. Schweppe, J. L. Kirtley, H. R. Outhred, F. H. Pickel, and A. J. Cox. *IEEE Transactions on Power Apparatus and Systems*, Vol. PAS-99, No. 3, May/June 1980.

“Rate and Penetration Analysis, the Impact of Distributed Photovoltaic Power Systems within the Utility Grid System.” With A. Cox, S. Finger, and A. Burns. *IEEE Transactions, IEEE 14th Photovoltaic Specialists Conference*, 1980.

“Economic Integration of New Energy Technologies into the Grid Using Homeostatic Control.” Invited paper, IEA Conference on New Energy Conversion Technologies, April 1981.

“Economic Operation of Distributed Power Systems within an Electric Utility.” With S. Finger and A. Cox. *IEEE Transactions on Power Apparatus and Systems*, Vol. PAS-100, No. 9, September 1981.

“Solar Energy/Utility Interface: The Technical Issues.” With D.C. White. *Energy, The International Journal*, January 1982.

“Homeostatic Control for Electric Power Usage.” With F. C. Schweppe and J. L. Kirtley. *IEEE Spectrum*, Vol. 19, No. 7, pp. 44–48, July 1982.

“The Introduction of Non-Dispatchable Technologies as Decision Variables in Long-Term Generation Expansion Models.” With M. C. Caramanis, K. S. Nochur, and F. C. Schweppe. *IEEE Transaction on Power Apparatus and Systems*, Vol. PAS-101, No. 8, August 1982.

“Wisconsin Study Shows Homeostatic Control has High Potential for Industrial Loads.” With F. C. Schweppe. *Modern Power Systems*, Vol. 3, No. 1, pp. 43-46, January 1983.

“Homeostatic Control: The Utility Customer Marketplace for Electric Power.” With F. C. Schweppe and J. L. Kirtley. In *Local Heat and Power Generation: A New Opportunity for British Industry*, Interscience Enterprise, U.K., 1983.

“Deregulating the Electric Utility Industry.” With F. C. Schweppe and R. Bohn. *The Energy Journal*, January 1984.

“Electricity Spot Prices in Developing Countries.” *National Development*, November 1984.

“Evaluation of Spot Price Based Electricity Rates.” With F.C. Schweppe and M. C. Caramanis. *IEEE Transactions on Power Apparatus and Systems*, Vol. PAS-104, no. 7 July 1985.

“Natural Gas Fired Combined Cycle Generators: Dominant Solutions in Capacity Planning.” With D. Flagg. *IEEE Transactions on Power Apparatus and Systems*, No. 85 SM 492-4, 1985.

Review of Munasinghe, “Energy Pricing and Demand Management” in *The Energy Journal*, 1987.

“Utility Experience with Real Time Rates.” With F. C. Schweppe and M. C. Caramanis. *IEEE Transactions on Power Systems*, Vol. 4, No. 2, May 1989.

“Coal to Natural Gas Seasonal Fuel Switching: An Option for Acid Rain Control.” *IEEE Transactions on Power Systems*, Vol. 4, No. 2, May 1989.

“Algorithms for a Spot Price Responding Residential Load Controller.” With B. Daryanian and F. C. Schweppe. *IEEE Transactions on Power Systems*, Vol. 4, No. 2, May 1989.

“Energy Systems for the Twenty-First Century.” With B. C. Ball and T. H. Lee. *International Journal of Global Energy Issues*, Vol. 1, Nos. 1/2, 1989.

“Planning for Future Uncertainties in Electric Power Generation: An Analysis of Transitional Strategies for Reduction of Carbon and Sulfur Emissions.” With B. L. Monroe, III. *IEEE Transactions on Power Systems*, 1991.

“Real Time Pricing as a Component of Least-Cost Power Strategies.” With M.C. Caramanis and B. Daryanian. *Proceedings of the American Power Conference*, 1991.

“An Experiment in Real Time Pricing for Control of Electric Thermal Storage Systems.” With B. Daryanian and R. E. Bohn, *IEEE Transactions on Power Systems*, 1991.

“A Computer Design Assistant for Induction Motors, Using Monte-Carlo Design Synthesis to Augment a Design Database.” With J. A. Moses, J. L. Kirtley, J. H. Lang and F. Cuadra. *Conference Record of the 1991 IEEE IAS Annual Meeting*, 1991.

“A Simulator of the Manufacturing of Induction Motors.” With C. L. Tucci, J. H. Lang, and J. L. Kirtley. *Conference Record of the 1991 IEEE IAS Annual Meeting*, 1991.

“A Framework for Integrated Resource Planning: The Role of Natural Gas Fired Generation in New England.” With S. R. Connors, C. G. Bespolka, D. C. White, and C. J. Andrews. *IEEE Transactions on Power Systems*, 1992.

“Optimal Demand-Side Response to Electricity Spot Prices for Storage-Type Customers.” With B. Daryanian and R. E. Bohn. *IEEE Transactions on Power Systems*, 1992.

“RTP-Based Energy Management Systems: Monitoring, Communication, and Control Requirements for Buildings under Real Time Pricing.” With B. Daryanian and L. K. Norford. *ASHRAE Transactions*, 1992.

“Benefit Optimization of Centralized and Decentralized Power systems in a Multi-Utility Environment.” With F. Nishimura, M. D. Ilic, and J. R. Lacalle-Melero. *IEEE Transactions on Power Systems*, 1993.

“Transmission System Management and Pricing: New Paradigms and International Comparisons.” Invited Paper, IEEE Power Systems Winter Meeting, February 1993, *IEEE Transactions on Power Systems*, 1993.

“Competitive Electric Market will Tailor Services to Everyone.” With D. J. Parquet. *California Manufacturer*, May 1995, pp 7-10.

“Smart Hardware: Large Power Transformer Monitoring.” With J. Kirtley, B. Lesieutre, W. Hagman, P. Warren, M. J. Boyd, and H.P. Chou IEEE. *Computer Applications in Power*, November 1995.

“The Electric Car Unplugged.” With R. deNeufville, S. R. Connors, F. R. Field III, D. Marks, and D. S. Sadoway. *Technology Review*, January 1996, Vol. 99, No. 1, pp.30–36.

“Lessons from the U.K. and Norway.” *IEEE Spectrum*, August 1996.

“Zonal Transmission Pricing: A Methodology and Preliminary Results from the WSCC.” *Proceedings of the Conference on Innovative Pricing*, San Diego, March, 1996 and *The Electricity Journal*, November 1996.

“A Market-Based Proposal for Transmission Pricing.” *The Electricity Journal*, November 1996.

“Zonal Transmission Pricing: Preliminary Results from the WSCC.” With S. Walton. *The Electricity Journal*, November 1996.

“The Regulatory Contract and Restructuring: A Modest Proposal.” With R. S. Hartman. *The Electricity Journal*, December 1996.

“Optimal Operating Arrangements in a Restructured World: Economic Issues.” With R. S. Hartman. *Energy Policy*, Vol. 26, No. 2, February 1998.

“Reliability: Reality or the Power Engineers' Last Gasp.” *Proceedings of the Thirty-First Annual Hawaii International Conference on System Sciences*, January 1998.

“Unbundling of Transmission: The Operation and Economics of a for-Profit Transmission Company.” *Proceedings of the Thirty-Third Annual Hawaii International Conference on System Sciences*, January 2000

“Transmission Markets: Stretching the Rules for Fun and Profit.” With N. Rao. *Electricity Journal*, June 2000.

“Forward Markets for Transmission that Clear at LMP: A Hybrid Proposal.” *Proceedings of the Thirty-Fourth Annual Hawaii International Conference on System Sciences*, January 2001.

“Uniform Pricing or Pay-as-Bid Pricing: A Dilemma for California and Beyond.” With A. E. Kahn, P. C. Cramton, and R. H. Porter. *The Electricity Journal*, July 2001.

“Ex Ante and Ex Post Designs for Electric Market Mitigation: Past and Present Experience and Lessons from California.” With J. B. Cardell. *Proceedings of the Thirty-Sixth Annual Hawaii International Conference on System Sciences*, January 2003.

“The Role of Demand Underscheduling in the California Energy Crisis.” With E.D. Hausman. *Proceedings of the Thirty-Seventh Annual Hawaii International Conference on System Sciences*, January 2004.

“Evaluating the Benefits of Independently-Owned Transmission Companies.” *Journal of Structured Project Finance*, winter 2004.

“The use of Multi-Attribute Trade-Off Analysis in Strategic Planning For an Electric Distribution utility: An Analysis of Abu Dhabi Distribution Company” With Rick Hornby, *Proceedings of the Thirty-Fifth Annual Hawaii International Conference on System Sciences*, January 2005.

“Loss Hedging Rights: A Final Piece in the LMP Puzzle.” *Proceedings of the Thirty-Fourth Annual Hawaii International Conference on System Sciences*, with Aleksandr Rudkevich , Ezra Hausman , Jan Bagnall and Christopher Kopel, January 2005.

“Price Discrimination in Organized/Centralized Electric Power Markets.” With Seabron Adamson, *Proceedings of the Thirty-Ninth Annual Hawaii International Conference on System Sciences*, January 2006.

“Identification and Congestion Analysis of Transmission Corridors of the Eastern Interconnection.” With Aleksandr Rudkevich , Kaan Egilmez , Minghai Liu , Prashant Murti , Poonsaeng Visudhiphan , and Thomas J. Overbye, *Proceedings of the Fortieth Annual Hawaii International Conference on System Sciences*, January 2007

“Transmission Tariffs by Use of System and Economic Benefits.” With Daniel J. Camac , Raul C. Bastidas , Wilfredo Sifeuentes , and Hyde M. Merrill *Proceedings of the Forty-Second Annual Hawaii International Conference on System Sciences*, January 2009

“Interconnection in the GCC Grid: The Economics of Change.” *Proceedings of the Forty- Second Annual Hawaii International Conference on System Sciences*, January 2009

Technical Reports

“U.S. Electrical Energy Demand and the Potential for Photovoltaics.” With M. Pope and R. Matlin. Technical Note, Lincoln Laboratory, MIT, November 1976 (TN 76-2).

“The Cost of a Cold Winter.” With S. Raskin. *The NEEMIS Newsletter*, Energy Laboratory, MIT, No. 6, Vol. I, January 1977.

“Impacts of Dispersed Solar Space and Hot Water Heating on New England Electric Service.” With S. Law and A. Burns. MIT Energy Laboratory, June 1978.

“A Uniform Economic Valuation Methodology for Solar Photovoltaic Applications Competing in a Utility Environment.” With P. R. Carpenter. MIT Energy Laboratory Report No. MIT-EL 78-010, June 1978.

“SERI Venture Analysis.” With S. Finger MIT Energy Laboratory Technical Report No. MIT-EL 78-032, July 1978.

“Methodology and Definition of Solar Photovoltaic Planning Regions.” With P. R. Carpenter. MIT Energy Laboratory Report No. MIT-EL 78-034, July 1978.

“The Economics of Water Lifting for Small-Scale Irrigation in the Third World: Tradition and Photovoltaic Technologies.” MIT Energy Laboratory Technical Report No. MIT-EL 79-011, May 1979.

“Homeostatic Control: Economic Integration of Solar Technologies into Electric Power Operations and Planning.” MIT Energy Laboratory Report, No. MIT-EL-81-028, July 1981.

“Boston Harbor Management Study.” With J. T. Kildow, principal investigator. MIT Sea Grant College Program, Report No. MITSG81-15, November 1981.

“Utility Spot Pricing Study: Wisconsin.” With M.C. Caramanis and R. Stevenson. MIT Energy Laboratory Technical Report No. MIT-EL 82-025, June 1982.

“Market and Economic Analysis of Residential Photovoltaic Systems: Final Report.” MIT Energy Laboratory Technical Report No. MIT-EL 82-024, June 1982.

“Industrial Interfuel Substitution Phase I Report: Model Development and Case Study.” With G. Russo. MIT Energy Laboratory Technical Report No. MIT-EL 82-035, June 1982.

“Management Decisions for Cogeneration.” With R.R. Radcliffe. MIT Energy Laboratory Technical Report No. MIT-EL 82-084, July 1982.

“Economic Analysis of the Photovoltaic Technology, Final Report.” MIT Energy Laboratory Technical Report Draft, August 1982.

“Utility Spot Pricing: California.” With F. C. Schweppe and M. Caramanis. Prepared for Pacific Gas and Electric and Southern California Edison, MIT Monograph, Cambridge, MA, October 1982.

“Deregulating the Electric Utility Industry.” With R. Bohn, B. Golub and F. C. Schweppe. MIT Energy Laboratory Technical Report No. MIT-EL 82-003, January 1982.

“Management Decisions for Cogeneration: A Survey Analysis.” With R. Radcliffe. MIT Energy Laboratory Report, Report No. MIT-EL 82-025, June 1982.

“Management Decisions for Cogeneration: Discriminating Between Users and Non Users.” With R. Radcliffe. MIT Energy Laboratory Report, Report No. MIT-EL 82-029.

“Spot Pricing and Its Relation to Other Load Management Methods.” With M. Caramanis and F. C. Schweppe. MIT Energy Laboratory Report, MIT-EL 83-001, January 1983.

“Utility Spot Pricing: California II.” With F. C. Schweppe and M. C. Caramanis. Prepared for California Energy Commission, Final Report, January 1984.

“An Assessment of Public Infrastructure in Massachusetts.” Joint Center for Urban Studies, A Case Study prepared for the use of the Subcommittee on Economic Goals and Intergovernmental Policy of the Joint Economic Committee, Congress of the United States, February 25, 1984.

“Ammonia from Bagasse Gasification: A Study of Ethanol Production Systems in Brazil.” With C. Fernando. MIT, Laboratory for Electromagnetic and Electronic Systems, LEES Report No. TR 85-002, April, 1985.

“A Non-LP Prescreening Framework for Integrated Energy Systems.” With C. Fernando. MIT, Laboratory for Electromagnetic and Electronic Systems, LEES Report No. TR 86-001, January 1986.

“Project Report – Phase I: Analysis of Biomass Penetration in the Italian Electricity Market.” With W.W. Schenler, P. Moncada and S.R. Connors. MIT Energy Laboratory, MIT-EL 93-005, November 1993.

“Advanced Motors and Power Electronics.” With E.G. Corbett, S.D. Umans, K.K. Afridi, J.G. Kassakian, L.S. Schwartz, and C.F. Bruce. MIT, Lincoln Laboratory, Project Report VT-2, April 22, 1994.

“Project Report—Phase II: Analysis of Biomass Penetration in the European Electricity Market.” With W.W. Schenler, P. Moncada, and S.R. Connors. MIT Energy Laboratory, MIT-EL 94-002, July 1994.

“Distributed Storage Systems Within the Electric Utility Grid: Technology Assessment and Evaluation of Market Worth.” With J.B. Cardell. MIT School of Engineering Laboratory for Electromagnetic and Electronic Systems, LEES Technical Report TR 95-005, June 1995.

“Integrating Small Scale Distributed Generation into a Deregulated Market: Control Strategies and Price Feedback.” With J. Cardell and M. Ilic. MIT Energy Laboratory, MIT-EL 98-001, April 1998.

“Review of Initial Report on Company-Specific Separate Proceedings and Generic Reevaluations; Published Natural Gas Price Data; and Enron Trading Strategies, August 2002.” With R. Hornby. A report to Powerex Corporation, October 2002.

Working Papers and Discussion Papers

“Choice of Technologies for Lifting Water,” Lake Chad polder project, Meta Systems, Inc. USAID 1972.

“A Framework for Long-Term Economic Planning in Bangladesh.” With R. Dorfman and M. Alamgir. Working Paper, Center for Population Studies, March 1972.

“Population Projections for Bangladesh: 1973-2003.” With R. Revelle, H. A. Thomas, and F. Benford. Working Paper, Center for Population Studies, February 1972.

“The Definition and Identification of Interested Parties and Interested Groups for Paretian Analysis.” Discussion Paper #73-3, Environmental Systems Program, Harvard University, December 1973.

“Interceptor Sewers and Suburban Sprawl.” With C. S. Binkley, *et al.* Urban Systems Research and Engineering, Inc., Vol. 1, September 10, 1974.

“Photovoltaic Power Systems: Review of Current Market Studies: Methodology for Long-Term Demand Projection.” MIT Energy Laboratory Working Paper No. MIT -EL 78-006WP, May 1978.

“Energy in Cities.” With P. Rogers. U.S. Department of Housing and Urban Development, Draft, 1980.

“Economics and Integration of Photovoltaic System into the Utility Grid.” To Senate Committee Staff on Science and Technology, September 1981.

“Solar Economics, Whose?” Invited paper, International Association of Energy Economists, June 1981.

“Economic Integration of New Energy Technologies into the Grid using Homeostatic Control.” Invited Paper, IEA Conference on New Energy Conversion Technologies, April 1981.

“Solar Energy/Utility Interface: The Technical Issues.” With D.C. White. *Energy, The International Journal*, January 1982.

“Information Technology and Optimization of Electricity Generation Consumption and Distribution: The Case of Homeostatic Control.” With M. C. Caramanis and F. C. Schweppe. Presented at the International Workshop on Informatics for Energy Savings: Opportunities and Challenges, Rome, Italy, June 21, 1982.

“Advanced Generation Application for the HTGR.” With T. Lee, C. Ciarletti and J. Tobin. Presented to Gas-Cooled Reactor Associates meeting, San Diego, CA, September 1983.

“Production Costing Load Management and Tariffs.” With M. Castillo Bonet. (APESC VI Meetings), Honolulu, Hawaii, May 1983.

“Homeostatic Control: The Utility Customer Marketplace for Electric Power.” In *Local Heat and Power Generation: A New Opportunity for British Industry*, Interscience Enterprise, U.K., 1983.

“New Telecommunications Opportunities for Non-Telephone Utilities.” Prepared from the proceedings of the Management Conference, in *Public Utilities Reports, Inc.*, June 1984.

“Utility Customer Communications: New Directions for the Marriage of Telephone, Cable, and Electric Power.” Presented at the Commonwealth Club of California, San Francisco, CA, January 30, 1984.

“Advantages of Central Plant vs. Distributed Boiler Design.” With R. Toland and W. Mahlum. Harbor Point: A Case Study, for presentation and publication 76th Annual Tech. Conference, International District Heating & Cooling Association (IDHCA), Minneapolis, MN, June 2-6, 1985.

“Competition and Deregulation: The Shape of the Future.” Keynote Address to MAPP Executives, Minneapolis, MN, September 1985.

“An Adaptive Transformer Monitoring System.” With Stephen R. Connors and David C. White. Presented at the International Symposium for Demonstrations of Expert System Applications to the Power Industry, Montreal, Quebec, Canada, May 1989.

“Trade-Off Analysis for Electric Power Planning in New England: A Methodology for Dealing with Uncertain Futures.” With Wagner H. Hagman, et al. Presented at the ORSA/TIMS Conference, Vancouver, Canada, May, 1989.

“Comments on Organizational and Pricing Issues: 2000 and Beyond.” Prepared for discussion at the NSF Workshop on Power Systems 2000 and beyond, August 1989.

“A Global Planning Methodology for Uncertain Environments: Application to the Lebanese Power System.” With M. Yehia, et al. Presented at the IEEE/PES Winter Meeting, New York, NY, Feb. 1994.

“Modeling Requirements for SRMC Based Transmission Pricing.” With M.C. Caramanis. Presented at the Institute of Management Sciences Meeting, June 1994.

“Real Time Rates: Practical Considerations in Real Time Calculations.” With B. W. Dorsey. September 1995.

“Optimal Operating Arrangements in the Restructured World: Economic Issues.” With R. S. Hartman. LEES Working Paper WP95-001, December 1995.

"The *Independent* System Operator." LEES Working Paper WP 96-002, February 1996.

"The Regulatory Contract and its Relevance to Stranded Assets under Restructuring: A Modest Proposal." With R. S. Hartman. LEES Working Paper WP 96-003, February 1996.

"A Market-Based Proposal for Transmission Pricing: Developing a Primary Auction and Secondary Market for Transmission Rights." September 1996.

"Review of Mandatory Electricity Pools: Alberta and International Experience." Tabors Caramanis & Associates, November 1997

"Analysis of the Midwestern Electricity Price Spikes of Late." Tabors Caramanis & Associates, June 1998.

"Institutional Alternatives for Transmission System Operations: ISOs, ISAs, and ITCs." Tabors Caramanis and Associates, December 1998

"The Market for Power in New England: The Competitive Implications of Restructuring." Tabors Caramanis & Associates, 1998.

"Energy Markets Supported by a Truly Independent System Operator." Tabors Caramanis & Associates, 1998.

"Transco: A Proposed Structure for Transmission Ownership and Operations." Tabors Caramanis & Associates, 1998.

"Transmission Pricing in PJM: Allowing the Economics of the Market to Work." With contributions by L. Paz Galindo Tabors Caramanis & Associates, February 1999.

"Institutional Alternatives for Transmission System Operations: ISOs and ITCs." Tabors Caramanis & Associates, Working Paper No. 0399-0232, March 1999.

"Conceptual Tariff Structure for an Independent Transmission Company." With A. Zobian and R. Fagan. Tabors Caramanis & Associates, Working Paper 0399-0231, March 1999.

"Auctionable Capacity Rights and Market-Based Pricing." With contributions by R. Wilson. Tabors Caramanis & Associates, April 1999.

"SMD and RTO West: Where Are the Benefits for Alberta?" With R. Fagan. Keynote Paper: Ninth Annual Conference of the Independent Power Producers Society of Alberta, March 2003.

REGULATORY COMMENT AND TESTIMONY

"Economics and Integration of Photovoltaic System into the Utility Grid," to Senate Committee Staff on Science and Technology, September 1981.

Comment on "Regulation of Electricity Sales—For Resale and Transmission Service." With F. C. Schweppe, R. E. Bohn, M. C. Caramanis. (FERC docket 85-17-000 Phase II) October 1, 1985.

Expert Witness, St. Peter, MN vs. SMMPA, Utility Planning and Forecasting, 1986.

"Real Time Pricing: Central Maine Power Corporation" before the State of Maine Regulatory Commission, March 1991, sponsored by Central Maine Power.

"Discussion of FERC Docket No. RM 93-19-000, Transmission Pricing Issues." With M. C. Caramanis. November 1993.

Testimony before the California Public Utility Commission en banc hearings on industry restructuring, September, 1994 sponsored by Enron Capital and Trade Resources.

Testimony before the Massachusetts Public Utility Commission hearings on industry restructuring, April, 1995 sponsored by Enron Capital and Trade Resources.

Testimony before the New York Public Service Commission Collaborative on Industry Restructuring, May 1995 sponsored by the Independent Power Producers of New York.

Testimony before the New York Public Service Commission on Buyback Rates sponsored by Independent Power Producers of New York and Sithe Energies, Docket Nos. 93-E-1075 and 93-E-0912, August 1995.

Testimony before the New York Public Service Commission on Two Party Transactions Proposal of NYPSC, Docket No. 96-E-0798, 1996.

Testimony submitted to the Commonwealth of Massachusetts, Department of Public Utilities on The Market for Power in New England: The Competitive Implications of Restructuring sponsored by the Office of the Attorney General. With CRA, April 1996.

Testimony before the state of Rhode Island and Providence Plantations Public Utility Commission on Electric Industry Restructuring and Market Power sponsored by the Attorney General, State of Rhode Island, Docket No. 2320, April 1996.

Testimony before the Commonwealth of Massachusetts, Department of Public Utilities in Panel Format on The Independent System Operator / NEPOOL / FERC Order No. 888 and on the Power Exchange.

Testimony before FERC Technical Panel on Transmission Pricing October, 1996 and May 1997.

Testimony before the State of Maryland Public Service Commission on Restructuring, August 1997.

Testimony before the Pennsylvania Public Utilities Commission on Capacity Benefit Margin, 1998.

Testimony before the New Jersey Board of Public Utilities in the matter of the Energy Master Plan Phase II Proceedings to Investigate the Future Structure of the Electric Power Industry on restructuring issues, Docket Nos. EX94120585Y, EO97070457, EO97070460, EO97070463, EO97070466, March 1998.

Testimony before the Public Service Commission of Wisconsin, Investigation on the Commission's Own Motion Into the Development of an Independent System Operator for the Electric Transmission System of Wisconsin (05-BE-100), April 1998.

Testimony before the United States Congress, House of Representatives, Committee on Commerce, Electronic Commerce: The Energy Industry in the Electronic Age, July 15, 1998.

Testimony before Maine Public Utilities Commission, Maine Public Service Company, Petition for Authorization for Sale of Generating Assets, Docket No. 98-584, August 1998.

Testimony before the Federal Energy Regulatory Commission, American Electric Power Company and Central and Southwest Corporation, on behalf of Enron Power Marketing, Inc., in re AEP/CSW proposed merger, Docket Nos. EC98-40-000, ER98-2770, ER98-2786, April 28, 1999.

Testimony before the Alberta Energy and Utilities Board in regards to ESBI Alberta Ltd.'s General Rate Application, Phase II, 1999/2000, on transmission tariff design and cost allocation mechanisms.

Testimony before the Federal Energy Regulatory Commission, Sierra Pacific Company, on Behalf of Sierra Pacific Power Company, regarding the justness and reasonableness of an Interconnection and Operating Agreement for a new transmission project, Docket Nos. ER99-28-001, ER99-28-003, EL99-38-002, ER99-945-002, April 27, 2000.

Testimony before the Federal Energy Regulatory Commission on behalf of Powerex Corporation and the Transaction Finality Group on Ripple Effects of proposed Pacific Northwest refunds, Hydro operations in the Pacific Northwest and proposed price mitigation in the Pacific Northwest, Docket Nos. EL01-10-000; EL01-10-001, August 28, 2001.

Testimony before the Federal Energy Regulatory Commission on behalf of Powerex Corporation and the Transaction Finality Group on the need for price mitigation in the Pacific Northwest, Docket Nos. EL01-10-000; EL01-10-001, October 29, 2001.

Testimony before the Federal Energy Regulatory Commission on behalf of the Electric Power Supply Association (EPSA) regarding Market Based Rates, docket EL01-118-000, January 2002.

Testimony before the Federal Energy Regulatory Commission on behalf of Dynegy Power Marketing, et al on Market Power Mitigation rules within MD02 proposal of California ISO, Docket Nos. EL00-95-001; ER02-1656-000, June 2002.

Testimony before the Federal Energy Regulatory Commission on behalf of Powerex Corporation and CSG on the calculation of Mitigated Market Clearing Prices in the California Refund Case, Issue 1 on November 6, 2001, January 31, 2002 and February 25, 2002, Docket Nos. EL00-95-045 and EL00-98-042; Issues 2 and 3 on July 3, 2002 and July 26, 2002, and August 9, 2002, and of a declaration Review of Initial Report on Company-Specific Separate Proceedings and Generic Reevaluations; Published Natural Gas Price Data; and Enron Trading Strategies, August 2002, filed on behalf of Powerex on October 15, 2002.

Testimony before the Federal Energy Regulatory Commission on behalf of Dynegy Corporation on Long-Term Contracts in California; Docket Nos. EL02-6—000; EL02-62-000, October 17, 2002, November 14, 2002.

Testimony before Arbitrator in Portland Oregon on behalf of Powerex against Alcan on the termination of a supply contract. November, 2002

Testimony before the Federal Energy Regulatory Commission supporting the benefits of the International Transmission Company, December, 2002.

Testimony before the Federal Energy Regulatory Commission on behalf of Cinergy Corporation on delay of Day 2 of implementation and support of the general rules of the Midwest Independent System Operator, Docket No. EL03-35, January 10, 2003

Testimony before the Federal Energy Regulatory Commission on behalf of Portland General Electric regarding Circular Schedules or Death Star Transactions, Docket Nos. EL02-114-000 and EL-02-115-001, February 24, 2003.

Testimony before Arbitration Panel in Vancouver, BC on behalf of ProGas against Ocean States Power on the determination of natural gas contract prices. March, 2003.

Testimony before the Federal Energy Regulatory Commission on behalf of Powerex Corporation regarding Gaming Practices in western markets, Docket Nos. EL00-95-000 et al., March 3, 2003.

Testimony before the Federal Energy Regulatory Commission on behalf of Powerex Corporation in the "100 Days of Discovery," Docket Nos. EL00-95-000 et al., March 20, 2003.

Testimony before the Federal Energy Regulatory Commission on behalf of NRG on FERC pricing proposal for the NEISO in southwestern Connecticut; Docket No. ER03-563-000, May 27, 2003.

Testimony before the Federal Energy Regulatory Commission on behalf of Cinergy Corporation on PJM-AEP RTO Inquiry, Rebutting Testimony of AEP Witnesses Baker, Draper and Tomasky. Docket No. ER03-262 et al. October 9, 2003.

Testimony before the Federal Energy Regulatory Commission on behalf of Cinergy Corporation on PJM-AEP RTO Inquiry, Direct Testimony on Net Benefits of AEP Integration, Docket No. ER03-262 et al. January 7, 2004.

Testimony before the Federal Energy Regulatory Commission on behalf of Cinergy Corporation on Midwest ISO Transmission and Energy Market Tariff issues pertaining to FTR allocation, grandfathered agreements, resource adequacy, mitigation, and system support, Docket ER04-691, Direct Testimony on May 7, 2004 and Rebuttal Testimony on May 21, 2004.

Testimony before the Federal Energy Regulatory Commission on behalf of Cinergy Corporation on Midwest ISO Transmission and Energy Market Tariff issues pertaining to reliability, efficiency and discrimination concerns of carve out approaches for grandfathered agreements, Docket Nos. ER04-691 and EL04-104, Direct Testimony on June 25, 2004 and Rebuttal Testimony on July 16, 2004.

Testimony before Arbitration Panel in Calgary, Alberta on behalf of ProGas against Ocean States Power on the determination of natural gas contract prices, August 2004.

Submitted in Response to Formal, Non-Public Investigation
Under 18 C.F.R. § 1b.5
Subject to 18 C.F.R. §§ 1b.9 and 1b.20

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Up-To Congestion Transactions)

Docket No. IN10-5-000

AFFIDAVIT

RICHARD D. TABORS, being duly sworn, deposes and states: that he prepared the Affidavit and Appendices of Richard D. Tabors and that the statements contained therein and the Appendices attached thereto are true and correct to the best of his knowledge and belief.


Richard D. Tabors

Subscribed and sworn to before me
This 21 day of October, 2011



Notary Public

My Commission Expires:

MELANIE DAWN JARVIS
Notary Public in and for the Prov. of Alberta
Appointment expires: December 31, 2011



Exhibit C

NASD OFFICE OF HEARING OFFICERS

DEPARTMENT OF MARKET REGULATION

Complainant,

v.

Respondent

Respondent.

Disciplinary Proceeding
No. CMS030257

Hearing Officer – AWH

Hearing Panel Decision

August 6, 2004

Registered principal found not liable for engaging in fraudulent wash and matched trades, in violation of Section 10(b) of the Securities Exchange Act of 1934, Rule 10b-5 thereunder, and NASD Conduct Rules 2110, 2120, and 3310. Complaint dismissed.

Appearances:

Robert Furst, Esq., Jeffrey Stith, Esq., and Michael R. Levy, Esq.,
For the Department of Market Regulation

LI, Esq., and RJ, Esq., for Respondent

DECISION

Background

On November 5, 2003, the Department of Market Regulation (“Market Regulation”) issued the single-cause Complaint in this proceeding, alleging that Respondent engaged in fraudulent wash and matched trades designed to recognize tax-exempt gains in accounts he controlled, in violation of Section 10(b) of the Securities Exchange Act of 1934, Rule 10b-5 thereunder, and NASD Conduct Rules 2110, 2120, and 3310. On December 2, 2003, Respondent filed an Answer to the Complaint,

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

admitting that he placed orders for the trades at issue, denying that the trades violated any securities laws or rules, and averring that he had legitimate business and tax related reasons for the trades. A hearing was held on March 17, 2004, before a Hearing Panel composed of the Hearing Officer, the Chairman of the Market Regulation Committee, and a current member of the District 10 Committee. The parties each filed a post-hearing brief, and, on June 7, 2004, Market Regulation filed its reply brief.

Findings of Fact¹

Respondent entered the securities industry in the mid-1960's. In 1967, he was registered as a principal through member firm SLK. C-1. Eventually, he became the head of the firm, which had grown from 45 employees and \$5 million in capital in 1968, to one with 2,600 employees and \$1.5 billion in capital in 2000, when the firm was acquired by GSC. Respondent had stepped down as senior partner at SLK approximately a year before the firm was acquired. Tr. 102-03. He currently has a titular position with SLK, but has ceded all operational functions. Tr. 30. He remains registered with NASD through SLK. C-1.

He has no disciplinary history. *Id.*

Entities Owned or Controlled by Respondent

During the period of time that the trades at issue were executed, in addition to his personal securities account at SLK, Respondent owned, controlled, and/or had trading authority over the accounts of three other entities:

Respondent founded and was president of IAT, an insurance company that was originally incorporated in New York, and, in 1991, reincorporated in Bermuda. Tr. 31;

¹ References to Market Regulation's exhibits are designated C_; Respondent's exhibits, as K_; and the transcript of the hearing, as Tr._.

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

C-4. Respondent's two children own all of the outstanding stock of IAT; he owns all of the preferred voting stock. Tr. 31. In 2001, IAT had no employees, and its insurance business was operated on a contract basis by Marsh McLennan. Tr. 35. In 2001, Respondent was responsible for investing hundreds of millions of dollars for IAT through a margin account at SLK. Tr. 35-36; C-4. IAT was tax-exempt as a result of a statutory provision that gave tax-exempt status to insurance companies which generated little premium revenue. Consequently, IAT's investment profits were not subject to federal tax. Tr. 37; C-34; Answer at 5. Respondent expected that IAT would lose its tax-exempt status in November 2001. Tr. 66-67; Answer at 3. IAT bought a controlling interest in MCM, a Delaware insurance company that operated worldwide, had 300 employees, and had \$100 million in operating loss carry-forwards.² Tr. 39, 50-51.

EH is a Delaware corporation with its principal place of business in Raleigh, North Carolina. As the name implies, its function is to hold investments. Tr. 39. MCM owns 100% of EH. IAT was engaged to provide investment advice to EH through an account with SLK controlled by Respondent. Tr. 40-42; C-3.

MMK is a Bermuda corporation that is a wholly owned subsidiary of IAT. IAT acquired the stock of MMK from MassMutual Holding Company. C-6. MMK has no employees. Its insurance business is run on a contract basis, and it is a regular tax payer. Tr. 51-52.

Respondent's Trading in Thoratec Corporation, Inc. ("THOR")

Respondent was a significant investor in the stock of Thoratec Corporation, Inc., controlling over 6.6% of its shares outstanding as of July 24, 2001. Tr. 73; C-33. As of August 1, 2001, IAT held 2,033,500 shares of THOR. Tr. 59. Those shares had been

² IAT's use of those loss carry-overs is detailed below.

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

purchased at prices lower than the approximate \$17 price that THOR was trading at in early August 2001. Tr. 58-59; C-13, C-54. On August 1, 2001, EH held 700,000 shares of THOR that Respondent purchased for it in February 2001 at \$8.6875 per share. Tr. 55; C-8.

Respondent's general practice in placing trading orders for execution was either (1) to call the night before and leave a message on his secretary's voicemail; (2) to give the order in person to his secretary, if he was in the office; (3) to call the order room directly; or (4) to walk the order to the order room. Tr. 110. GH, who had worked for 27 years at SLK, would frequently take orders from Respondent or Respondent's secretary. GH worked on the listed order desk. If he received an order for Nasdaq securities, he would give it to HR, the manager of the agency trading department, for execution. When GH gave an order to HR for execution, he would generally fill out an order ticket, but he would not do so every time. Tr. 180-81, 183, 186.

As described more fully below, between August 1 and August 13, 2001, Respondent engaged in a series of four transactions in THOR between the various accounts he controlled. C-46. Those trades were ordered for the purpose of realizing capital gains while, at the same time, offsetting those gains by tax loss carry-forwards, or taking advantage of available tax exemptions on those gains. At the same time, he sought to retain control over the shares of THOR that the various accounts held. He was not aware of any significant news that may have affected the price of THOR. There is no evidence that he had any motive for the trades, other than tax reasons³ and a desire not to

³ As noted below, avoidance of margin interest motivated one trade, in part.

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

reduce the size of IAT's holdings of THOR. He had no motive artificially to affect the price of THOR or to induce others to trade the stock. Tr. 121-22.

The Trades of August 1 and 7

By August 2001, EH had an unrealized gain on the 700,000 shares of THOR that it had purchased in February at just under \$8.70. As a wholly owned subsidiary of MCM, EH could offset any realized taxable capital gains on THOR by using MCM's loss carry-forwards before they expired. However, Respondent was a long-term investor in THOR, and he did not want to lose control of the 700,000 shares held by EH. Tr. 50-51, 70-71. As a result, on August 1, 2001, Respondent put in a sell order on behalf of EH for its 700,000 shares of THOR. Tr. 69-70; C-22, p. 3. At the same time he placed an identical buy order on behalf of IAT, expecting that the two orders would be crossed. Tr. 69, 75; C-22, p. 1. The trades were executed at \$18 per share, and constituted 54% of the day's volume in THOR. C-22, pp. 1, 3; C-52, p. 16.

On August 7, 2001, Respondent placed a sell order, on behalf of IAT, for 1,000,000 shares of THOR. Tr. 76-77; C-23, p. 2. On that same day, he placed an identical buy order on behalf of EH. C-23, p. 1. The trades were executed at \$17.50, within the bid and ask price at the opening of the market. The trade constituted approximately 70% of the volume in THOR for that day. C-52, p. 16. As a result of the sale of THOR, IAT was able to realize gains on its investments in THOR before its tax exemption expired in November 2001.⁴ Tr. 66-67, 116.

The Execution Price of the Trades on August 1

⁴ IAT's sale of 1,000,000 shares did not include the 700,000 shares it had bought from EH on August 1. If it had, IAT would have lost money because it purchased the 700,000 shares at \$18, and sold the 1,000,000 shares at \$17.50.

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

As noted above, the execution price of the trades on August 1 was \$18, the opening price on that date.⁵ However, the trades were entered at 12:53 pm, when the inside bid and ask were \$17.07 and \$17.14. C-22; K-11, pp. 1, 10. Respondent did not order the trades to be effected above the inside market; he assumed that the price would be set between the bid and ask at the opening of the market. Tr. 137. The Hearing Panel finds that the most likely cause for the outside market price was that GH neglected to relay the order to HR prior to the opening of the market, as Respondent intended. Rather, when he realized his oversight, he attempted to rectify his error by having HR execute the order at the opening price and note on the ticket the symbol “.o,” indicating that there was a price override. Tr. 150, 221-22.

GH was emotionally upset on August 1, 2001, as a result of the death, on July 24, of his mother, to whom he was very close, and her funeral on July 28. GH did not plan to be in the office on August 1 because he thought he would be given a longer bereavement leave. Because his bereavement leave did not extend that long, he came into the office, but was not able to function as he usually did. He would find customer orders that had lain on his desk for some time without his taking any action on them. When that happened, he attempted to have the order executed at the price the customer would have obtained had the order been executed promptly. Tr. 202-06. Although he candidly stated that he could not remember specific orders that he treated in this manner, the Hearing Panel credits his testimony and finds it more likely than not that Respondent’s orders were executed above the inside market only because GH neglected to act on them at the

⁵ From and after the twelfth minute of trading, the inside ask ranged from a high of 17.99 to a low of 16.80, closing at 17.52. K-11.

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

opening of the market, and not because Respondent directed them to be executed at a price above the inside market.

The Trades of August 9 and August 13

On August 9, 2001, Respondent placed an order, on behalf of IAT, to sell 1,000,000 shares of THOR. The purpose, again, was to take advantage of IAT's tax exemption before it expired in November. Tr. 78, 117; C-24, p. 3. At the same time, he placed two buy orders for THOR, each for 500,000 shares. The first buy order was for his personal account at SLK; the second, was on behalf of MMK. He expected the buy and sell orders to be crossed. Tr. 97. The trades were executed at \$17.12, within the inside bid and ask, and constituted 84% of the volume in THOR for the day. Tr. 79; C-52, p. 16.

On August 13, 2001, Respondent reversed the trades of August 9, placing a buy order for 1,000,000 shares of THOR on behalf of IAT, and a sell order for 500,000 shares each for MMK and his personal account. He expected the orders to be crossed. Tr. 82, 97; C-25, pp. 1-3. The orders were executed at \$17.20, within the inside bid and ask, and they comprised approximately 70% of the volume in THOR for the day. C-25, C-52, p. 16. The trades had no tax purposes. They were executed to enable IAT to hold the same number of THOR shares it had held prior to the August 9 transactions because Respondent wanted IAT to remain a long-term investor in the stock. In part, the trades were executed to avoid margin interest on the 500,000 THOR shares in his own and MMK's accounts. Tr. 85-88, 118-20.

Market Response to the Trades

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

On August 1, 2001, the day of the first trades (at \$18), THOR closed at \$17.51, down \$.37 from its previous day's close of \$17.88.⁶ C-52, p. 16. On August 2, the stock recovered \$.44, to close at \$17.95. *Id.* The stock closed down \$.35 two trading days later, but closed at \$18 on August 7, the second day of Respondent's trades (at \$17.50). On August 8, it closed down almost \$.30, and on August 9, the third day of Respondent's trades (at \$17.12), it closed down an additional \$.34 to \$17.34. By August 13, the last day of Respondent's trades (at \$17.12), THOR closed at \$17.46. Over the next two days, it dropped to \$15.85 per share, before rising to \$17.64 on August 17, and reaching a high of \$20.02 on August 31, 2001.

Respondent's Cessation of Trading in THOR

After the August 13, trades, Respondent did not trade in THOR stock for the balance of that month, either for himself or any other entity. C-10, C-15, C-18, C-21. Moreover, SLK account records in evidence demonstrate that there were no trades in THOR stock in Respondent's personal account and the accounts of EH or MMK between August 2001 and March 2003, or in IAT's account through October 2002. Tr. 232-34; C-37, C-38, C-39, C-53.

Discussion and Conclusion

In its pre-hearing and post-hearing submissions, Market Regulation posits three theories for finding Respondent liable for violations of § 10(b) of Securities Exchange Act of 1934 (Exchange Act) and Rule 10b-5 promulgated thereunder: (1) matched orders are *per se* illegal, regardless of whether they are part of a broader wash sale scheme, and

⁶ All of IAT's trades in THOR were reported between 10 a.m. and 1 p.m. on the day of the trade. C-46.

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

therefore do not require independent proof of scienter;⁷ (2) even in the absence of manipulative intent, wash sales and matched orders are deceptive and operate as a fraud on the market;⁸ and (3) Respondent, if he did not intend to defraud, acted with recklessness sufficient to establish the scienter required to prove fraud.⁹ The Hearing Panel finds that the first two theories are not consistent with the provisions of the Exchange Act or the case law arising thereunder, and it does not find that Respondent acted recklessly in initiating the trades at issue.

Scienter – intent to deceive, manipulate, or defraud – is a necessary element of proof in an action under § 10(b) of the Exchange Act and Rule 10b-5 promulgated thereunder. *Ernst and Ernst v. Hochfelder*, 425 U.S. 185 (1976). As the Court noted, § 9(a)(1) of the Exchange Act “proscribes wash sales and matched orders when effectuated for the purpose of creating a false or misleading appearance of active trading in any security registered on a national securities exchange, or . . . with respect to the market for any such security.”¹⁰ *Id.* at 206. The proscription in § 9(a)(1) contains the element of scienter, and, as defined in that section, wash sales and matched orders violate § 10(b) and Rule 10b-5. The Court rejected negligence as a basis for §10(b) liability, finding that “[t]here is no indication that Congress intended anyone to be made liable for such practices unless he acted other than in good faith.” *Id.* The Court also rejected an

⁷ Market Regulation Pre-Hearing Brief, p. 7; Market Regulation Post-Hearing Reply Brief, p. 5.

⁸ Market Regulation Pre-Hearing Brief, p. 7; Market Regulation Post-Hearing Brief, pp. 12, 14.

⁹ Market Regulation Pre-Hearing Brief, pp. 7-8; Market Regulation Post Hearing Brief, p. 15; Market Regulation Post-Hearing Reply Brief, p. 11.

¹⁰ Wash sales are transactions involving no change in beneficial ownership; matched orders are orders for the purchase or sale of a security that are entered with the knowledge that orders of substantially the same size, at substantially the same price, have been or will be entered by the same or different persons for the sale or purchase of such security. *Id.* at 205.

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

interpretation of § 10(b) that would impose an “effect upon investors” standard and eliminate proof of intentional or willful conduct designed to deceive or defraud investors. The Court stated: “The logic of this effect-oriented approach would impose liability for wholly faultless conduct where such conduct results in harm to investors, a result the [Securities and Exchange] Commission would be unlikely to support.” *Id.* at 198.

A year after *Ernst & Ernst*, the Court, in *Santa Fe Industries, Inc. v. Green*, 423 U.S. 462 (1977) quoted the same legislative history in concluding that the only reference in the Senate Report on § 10 of the Exchange Act “merely states that the section was ‘aimed at those manipulative and deceptive practices which have been demonstrated to fulfill no useful function.’” *Id.* at 474. In discussing the term “manipulation,” the Court reiterated that the “term refers generally to practices, such as wash sales, matched orders, or rigged prices, *that are intended to mislead* investors by artificially affecting market activity.” (emphasis added). *Id.* at 476.

The SEC has also concluded that wash sales and matched orders are expressly proscribed by the Exchange Act “whenever the actor’s purpose is to create ‘a false or misleading appearance of active trading’ or to induce others to buy or sell.” *Edward J. Mawod & Co.*, Exch. Act Rel. No. 13,512, 1977 SEC LEXIS 1811 (May 6, 1977). In that case, the SEC held that such proscriptions are applicable under § 9(a) of the Exchange Act to securities “registered on a national securities exchange,” and that they violate § 10(b) of the Exchange Act when they are applied to securities in the over-the-counter market.¹¹ *Id.* at *11.¹²

¹¹ NASD Systems and Programs Rule 6440 also proscribes transactions which involve no change in beneficial ownership of the security, or matched trades, only when they are “for the purpose of creating or inducing a false or misleading appearance of activity in an eligible security or creating or inducing a false or misleading appearance with respect to the market in such security[.]”

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

In affirming the SEC's decision in *Mawod*, the 10th Circuit stated:

We recognize that under the doctrine of Ernst & Ernst, scienter is an essential element. However, it must be noted in this connection that the wash sale and matched order are per se manipulative and are so regarded *in the Ernst & Ernst scheme of things*. (emphasis added) (citing *Ernst & Ernst* and *Santa Fe Industries, Inc.*).

Mawod & Company v. Securities and Exchange Commission, 1979 U. S. App. LEXIS 17367, at *20 (10th Cir. 1979).

The quoted language does not suggest that matched orders that do not fall within the definition in § 9(a)(1) are per se manipulative, eliminating the need for proof of scienter to establish a violation of Section 10(b), Rule 10b-5 and NASD Conduct Rule 2120. The 10th Circuit's reference to "the Ernst & Ernst scheme of things" can only be interpreted to mean that, where there is evidence that a wash sale or matched order, as those terms are defined in § 9(a)(1), is effectuated *for the purpose of* creating a false or misleading appearance of active trading or some other market activity, no further proof of scienter is necessary to make out a violation of § 10(b) or Rule 10b-5. Before its reference to "the Ernst & Ernst scheme of things," the Circuit Court found that "[t]here is no challenge to the conclusion that manipulations were taking place at least by the [customers] and also the Mawod firm and Mawod." *Id.*, at *19. Here, Respondent's trades were effected in good faith and did not come within the proscription of § 9(a). There were only four transactions in shares of an established company, and no evidence of any attempt or reason to manipulate the price of those shares, to induce anyone to trade

¹² The respondents in that case were a registered broker-dealer and its general partner who were charged with aiding and abetting violations of § 10(b) by two of their customers. The SEC found that the two customers manipulated the price of an obscure over-the-counter shell company by trading large blocks of the stock on an in-and-out basis. In two months, Mawod's firm executed at least 30 trades in the stock for those customers, despite the fact that the trades were economically irrational.

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

in those shares, or to create the false or misleading appearance of market activity. To read the language to eliminate completely the requirement of scienter as an element of proof is to read intent out of § 9(a) and to find violations of § 10(b) where the actor has acted completely in good faith, contrary to Supreme Court's pronouncements in *Ernst & Ernst*.¹³

To bolster its argument that, even in the absence of manipulative intent, wash sales operate as a fraud on the market, Market Regulation cites a series of cases, all decided on the same day, involving brokers who were alleged to have violated § 10(b) and Rule 10b-5 by aiding and abetting misconduct by their customer, John G. Broumas. However, those cases are clearly distinguishable on their facts. Broumas directed hundreds of trades among 25 different brokerage accounts that he controlled at 14 different broker-dealers, in a scheme similar to check-kiting that also included the practice of "marking the close."¹⁴ Those cases are: *Richard D. Chema*, Exchange Act Rel. No. 40719, 1998 SEC LEXIS 2592 (Nov. 30, 1998); *Adrian C. Havill*, Exchange Act Rel. No. 40726, 1998 SEC LEXIS 2599 (Nov. 30, 1998); and *Sharon M. Graham and Steven C. Voss*, Exchange Act Rel. No. 40727; 1998 SEC LEXIS 2598 (Nov. 30, 1998).

In two cases, *Havill* and *Graham and Voss*, the SEC specifically found Broumas' conduct to be manipulative, citing *Ernst & Ernst*. In *Havill*, the SEC found that Broumas "intentionally distorted" the market price of the stock (1998 SEC LEXIS 2599, at **12-

¹³ Even assuming that *Mawod* could be read as Market Regulation urges, under the facts of this case, the Hearing Panel declines to adopt such a reading because it would conflict with *Ernst & Ernst*'s holding that scienter is an essential element of a § 10(b) violation.

¹⁴ Marking the close is the practice of attempting to influence the closing price of a stock by executing purchase or sale orders at or near the close of the market. *Graham and Voss, Id.* at *5, n.4.

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

13), and in *Graham and Voss*, the SEC found that his hundreds of wash trades created a “deceptive appearance of market activity” that was manipulative (1998 SEC LEXIS 28, at *20). In *Chema*, the SEC found that Chema handled seven separate accounts for Broumas, and that Chema effected 73 wash trades for Broumas in an eight month period, only 14 of which he reported. He effected 15 orders during the last seven minutes of the trading day. The SEC concluded that Broumas’ wash trades substantially distorted investors’ perception of the market, and that he defrauded the clearing firm into advancing him substantial sums of money by inducing the clearing firm to believe that he was making legitimate sales of stock (1998 SEC LEXIS 2592, at **12-13).

In all three, the brokers were found to have acted with scienter because they were aware of Broumas’ “bizarre,” “economically irrational trading” that was not profitable. None of those three cases suggests that the SEC sought to abrogate *Ernst & Ernst’s* holding that § 10(b) does not apply to wholly faultless or merely negligent conduct. Broumas’ conduct stands in stark contrast to Respondent’s four transactions that were effected in good faith, and only to take advantage of favorable tax consequences. The Hearing Panel finds that, given the size¹⁵, limited number, and character of Respondent’s trades, investors would not likely have been misled, and there is no evidence to the contrary.

Market Regulation’s citation to *Michael B. Jawitz*, Exch. Act Rel. No. 44357, 2001 SEC LEXIS 1042 (May 29, 2001), does not support its argument that Respondent’s conduct evidenced a reckless disregard for the consequences of his actions. Jawitz entered 184 fictitious (not bona fide) limit orders in an attempt to manipulate his firm’s

¹⁵ As noted below in the discussion of Rule 3310, a single large block trade, standing alone, would not indicate a groundswell of trading.

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

internal automated order routing and execution system that provided limit order protection for customers of the firm. *Michael B. Jawitz*, No. CMS960238, 1999 NASD Discip. LEXIS 24, at *4 (July 9, 1999). He allowed 309 fictitious orders to be reported to the NASD's Automated Confirmation Transaction Service, and then tried to cancel the orders within the same day. *Id.* Despite attempts to cancel the orders, 236 of the fictitious trades were reported to the Nasdaq tape. *Id.* The National Adjudicatory Council found that Jawitz violated NASD Conduct Rule 2120 because his conduct was intentional and deceptive. In affirming that decision, the SEC also found that Jawitz "recklessly compromised the integrity of the markets," by executing the fictitious trades:

As Jawitz admitted, he was aware that the trades resulting from the execution of his fictitious limit orders, although not bona fide, would be reported to the public by [the firm] through ACT. Thus Jawitz's actions further demonstrate a reckless disregard for whether market participants were misled regarding the "trades" that resulted from his fictitious limit orders.

Jawitz, 2001 SEC LEXIS at *18.

Here, there was no evidence that Respondent engaged in conduct that was intentionally deceptive, engaged in fictitious trading, believed that his conduct violated the securities laws, or caused SLK to violate its obligation to provide its other customers with limit order protection. The Hearing Panel finds credible his testimony that the trades were executed for legitimate business and tax related reasons. There is no evidence that his four transactions had any significant effect on the market price of THOR. Moreover, there is no evidence that he had any motive to engage in fraud or deception. Indeed, Respondent did not purchase or sell any shares of THOR after the trades at issue were executed. He engaged in trades that he believed were bona fide,

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

knew that they would be reported to the public, and made no attempt to conceal any aspect of his actions. Accordingly, because the Hearing Panel finds that Market Regulation has not proved by a preponderance of the evidence that Respondent engaged in fraudulent wash sales and matched trades, in violation of Section 10(b) of the Securities Exchange Act of 1934, Rule 10b-5 thereunder, and NASD Conduct Rules 2120, the Complaint against him on those allegations will be dismissed.

Alleged Violation of Conduct Rules 3310 and 2110

Conduct Rule 3310 provides, in pertinent part:

No member shall . . . cause to be published or circulated . . . any communication of any kind which purports to report any transaction as a purchase or sale of any security unless such member believes that such transaction was a bona fide purchase or sale of such security.

The trades at issue were reported through the Automated Confirmation Transaction Service (“ACT”). C-46.¹⁶ Respondent’s block size orders for those trades were not required to be displayed to market-makers outside of SLK. *See* Exchange Act Rule 11Ac-1-4.(c)(4).

The Rule does not define the term “bona fide,” but it literally means “good faith.” Considering all the evidence, the Hearing Panel concludes that Respondent believed that his transactions were bona fide purchases and sales. He placed the orders in good faith, for a legitimate purpose. He reasonably assumed that they would be executed within the relevant day’s price range, and that they would be subject to normal handling and reporting, in accordance with relevant trading practice rules.

NASD Rule 6440 proscribes matched orders and transactions which involve no change in beneficial ownership, only when they are executed or ordered “for the purpose

¹⁶ Exhibit C-46 was prepared by NASD staff, based on information reported by members to ACT. Tr. 218.

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

of creating or inducing a false or misleading appearance of activity . . . or creating or inducing a false or misleading appearance with respect to the market in such security[.]” Respondent’s transactions were not done for such purposes, nor were they fictitious; as noted above, they were accomplished in good faith for what Respondent believed were legitimate tax and business reasons.

There is no evidence to suggest that he had reasonable grounds to believe that those transactions were “false or misleading or would improperly influence the market price” of THOR. *See* Rule 6440(e). The Hearing Panel finds that a single large block trade might raise a red flag, but standing alone, would not indicate or prompt a groundswell of trading. The evidence of trading activity after Respondent’s trades supports that finding. Accordingly, the Hearing Panel concludes that Market Regulation has not proved by a preponderance of the evidence that Respondent violated Conduct Rule 3310, as alleged in the Complaint, and the Complaint will be dismissed as to those allegations.

Finally, the Complaint alleges violations of Conduct Rule 2110. As the SEC has recently noted, “if no other rule has been violated, a violation of Rule 2110 requires evidence that the respondent acted in bad faith or unethically.” *Chris Dinh Hartley*, Exch. Act Rel. No. 50031, 2004 SEC LEXIS 1507 (July 16, 2004) (citing *Calvin David Fox*, Exch. Act Rel. No. 48731 (October 31, 2003), 81 SEC Docket 2017, 2020-2021). Having found no violation of any other securities law or Conduct Rule, the Hearing Panel concludes that Respondent has not been shown to have violated Rule 2110 as a result of violating any other law or Rule. Moreover, the Hearing Panel does not find any evidence

This Decision has been published by the NASD Office of Hearing Officers and should be cited as OHO Redacted Decision CMS030257.

they he engaged in any bad faith, or unethical conduct. Accordingly, the Complaint will be dismissed as to those allegations.

Conclusion

Respondent is found not liable for engaging in fraudulent wash and matched trades, in violation of Section 10(b) of the Securities Exchange Act of 1934, Rule 10b-5 thereunder, and NASD Conduct Rules 2110, 2120, and 3310. The Complaint against him is *dismissed*.

SO ORDERED.

Alan W. Heifetz
Hearing Officer
For the Hearing Panel

Exhibit D

75 F.3d 92, Fed. Sec. L. Rep. P 99,011
(Cite as: 75 F.3d 92)



United States Court of Appeals,
Second Circuit.
Kevin UPTON, Petitioner,
v.
SECURITIES AND EXCHANGE COMMISSION,
Respondent.

No. 287, Docket 95-4044.
Argued Sept. 26, 1995.
Decided Jan. 18, 1996.

Chief financial officer of brokerage firm petitioned for review of order of the Securities and Exchange Commission (SEC) censoring him for failing reasonably to supervise subordinate, thereby permitting subordinate to aid and abet violation of SEC's customer protection rule. The Court of Appeals, [Lumbard](#), Circuit Judge, held that chief financial officer had insufficient notice that SEC considered firm's practice a violation of the rule.

Petition granted and order vacated.

West Headnotes

[1] Securities Regulation 349B ↪40.12

[349B](#) Securities Regulation
[349BI](#) Federal Regulation
[349BI\(C\)](#) Trading and Markets
[349BI\(C\)2](#) Registration and Regulation of Exchanges, Exchange Members, Brokers, Dealers and Dealers' Associations
[349Bk40.12](#) k. Broker-Dealers and Associates, Registration and Regulation. [Most Cited Cases](#)

Securities and Exchange Commission (SEC) could interpret its rule requiring that brokers-dealers keep separate bank account for benefit of customers, based on weekly calculation, expansively in order to proscribe conduct that would otherwise constitute evasion of the reserve requirement. [17 C.F.R. § 240.15c3-3\(e\)](#).

[2] Securities Regulation 349B ↪40.10

[349B](#) Securities Regulation
[349BI](#) Federal Regulation
[349BI\(C\)](#) Trading and Markets
[349BI\(C\)2](#) Registration and Regulation of Exchanges, Exchange Members, Brokers, Dealers and Dealers' Associations
[349Bk40.10](#) k. In General. [Most Cited Cases](#)

Because Securities and Exchange Commission (SEC) cannot foresee every possible evasion of its rule, it may determine specific applications of rule on case-by-case basis.

[3] Constitutional Law 92 ↪3905

[92](#) Constitutional Law
[92XXVII](#) Due Process
[92XXVII\(B\)](#) Protections Provided and Deprivations Prohibited in General
[92k3905](#) k. Certainty and Definiteness; Vagueness. [Most Cited Cases](#)
(Formerly [92k251.4](#))

Due process requires that laws give the person of ordinary intelligence a reasonable opportunity to know what is prohibited. [U.S.C.A. Const.Amend. 5](#).

[4] Administrative Law and Procedure 15A ↪413

[15A](#) Administrative Law and Procedure
[15AIV](#) Powers and Proceedings of Administrative Agencies, Officers and Agents
[15AIV\(C\)](#) Rules and Regulations
[15Ak412](#) Construction
[15Ak413](#) k. Administrative Construction. [Most Cited Cases](#)

Securities Regulation 349B ↪40.10

[349B](#) Securities Regulation
[349BI](#) Federal Regulation
[349BI\(C\)](#) Trading and Markets
[349BI\(C\)2](#) Registration and Regulation of

Exchanges, Exchange Members, Brokers, Dealers and Dealers' Associations

[349Bk40.10](#) k. In General. [Most Cited Cases](#)

Although Securities and Exchange Commission's (SEC) construction of its own regulations is entitled to substantial deference, court cannot defer to Commission's interpretation of its rules if doing so would penalize individual who has not received fair notice of regulatory violation; this principle applies, albeit less forcefully, even if rule in question carries only civil rather than criminal penalties.

[5] Securities Regulation 349B  **40.14(1)**

[349B](#) Securities Regulation

[349BI](#) Federal Regulation

[349BI\(C\)](#) Trading and Markets

[349BI\(C\)2](#) Registration and Regulation of Exchanges, Exchange Members, Brokers, Dealers and Dealers' Associations

[349Bk40.14](#) Revocation, Suspension, or Other Discipline

[349Bk40.14\(1\)](#) k. In General. [Most Cited Cases](#)

Chief financial officer of brokerage firm had insufficient notice that Securities and Exchange Commission (SEC) interpreted its customer protection rule to proscribe firm's practice of paying down loans collateralized by customer securities just before weekly calculation of Special Reserve Bank Account for the Exclusive Benefit of Customers, replacing them with unsecured loans, then reinstating the customer-secured loans shortly thereafter, and therefore SEC could not censor him for failing reasonably to supervise subordinate, thereby permitting subordinate to aid and abet violation of the rule; there was substantial uncertainty in Commission's interpretation. [17 C.F.R. § 240.15c3-3\(e\)](#).

*[93 Melvin A. Brosterman](#), New York City (Stroock & Stroock & Lavan, [David Bolton](#), of counsel), for Petitioner.

[Susan Ferris Wyderko](#), Senior Litigation Counsel, Securities and Exchange Commission, Washington,

DC ([Paul Gonson](#), Solicitor, Simon M. Lorne, General Counsel, Eric Summergrad, Principal Assistant General Counsel, [Christopher Paik](#), Senior Counsel, of counsel), for Respondent.

Before: [LUMBARD](#), [WALKER](#), and [CALABRESI](#), Circuit Judges.

[LUMBARD](#), Circuit Judge:

Kevin Upton petitions for judicial review, pursuant to section 25(a)(1) of the Securities Exchange Act, [15 U.S.C. § 78y\(a\)\(1\)](#), of an order of the Securities and Exchange Commission censuring him for failing reasonably to supervise a subordinate employee who aided and abetted a violation of Rule 15c3-3(e), the Commission's Customer Protection Rule. [17 C.F.R. § 240.15c3-3\(e\)](#). The Rule is designed to prevent broker-dealers from using funds or securities held on behalf of customers to finance proprietary and other non-customer transactions, by requiring that the broker-dealer keep a separate bank account for the benefit of customers, based on a weekly calculation. The Rule begins by stating that every registered broker-dealer

shall maintain with a bank or banks at all times ... a "Special Reserve Bank Account for the Exclusive Benefit of Customers" ... and it shall be separate from any other bank account of the broker or dealer. Such broker or dealer shall at all times maintain in such Reserve Bank Account, through deposits made therein, cash and/or qualified securities in an amount not less than the amount computed in accordance with the formula set forth in [Rule 15c3-3a].

[17 C.F.R. § 240.15c3-3\(e\)\(1\)](#). Unless a broker-dealer falls into a very limited exception (which does not apply here), the Rule specifies that

[c]omputations necessary to determine the amount required to be deposited as specified in paragraph (e)(1) of this section shall be made weekly, as of the close of the last business day of the week, and the deposit so computed shall be

made no later than 1 hour after the opening of banking business on the second following business day.

17 C.F.R. § 240.15c3-3(e)(3). The actual computation of the amount of the deposit is done according to a complex formula found in Rule 15c3-3a. In general though, the deposit is the excess of “customer credits” over “customer debits” as defined in the Rule.^{FN1}

FN1. “Customer credits” generally represent customer funds held by the broker-dealer or funds obtained by lending or hypothecating customer securities in the broker-dealer’s possession. “Customer debits” are predominantly funds owed to the broker-dealer by its customers. See 17 C.F.R. § 240.15c3-3a.

From May 1985 to December 1989, Kevin Upton was chief financial officer of Financial Clearing and Services Corporation (“FiCS”), a now-defunct brokerage firm. Beginning in July 1988, Upton assumed responsibility for supervising FiCS’s money management department, headed by John Dolcemaschio. During fifty-eight of the sixty weeks between April 8, 1988 and May 26, 1989, the money management department paid down loans collateralized by customer securities just before the weekly Rule 15c3-3(e) computation and replaced them with unsecured loans; on the next business day, FiCS reinstated the customer-secured loans. As a result of this paydown practice, FiCS reduced its weekly reserve requirement by as much as \$40 million.

On October 21, 1991, the Commission issued an order instituting public proceedings against Upton and Dolcemaschio. Dolcemaschio⁹⁴ consented to an order imposing sanctions. On May 18, 1993, after an evidentiary hearing and post-hearing briefing, an Administrative Law Judge found that FiCS’s paydown practice violated Rule 15c3-3(e) and that Upton had failed reasonably to supervise Dolcemaschio with a view toward preventing a

Rule 15c3-3(e) violation. Accordingly, the judge ordered that Upton be censured. On January 30, 1995, the Commission issued a final decision and order upholding the judge’s findings and affirming his choice of sanctions. This petition followed.

I.

Kevin Upton has been employed in the securities industry since 1967, when he received a bachelor’s degree in finance and accounting from Pace College. He began his career as a finance coordinator and later assistant compliance coordinator for the New York Stock Exchange. After obtaining an MBA from St. John’s University in 1970, he left the Exchange in 1971 and worked with a number of brokerage firms in various capacities, principally in the areas of compliance and financial responsibility.

In May 1985, Upton became chief financial officer of FiCS. As chief financial officer, Upton was responsible for overseeing FiCS’s internal accounting. Upton later became supervisor of the new accounts department and the margin department as well. In November 1985, Upton was given responsibility over FiCS’s money management department, although the department was reassigned to another supervisor one year later.

In February 1988, FiCS’s parent corporation, Security Pacific Corporation, a bank holding corporation, sold FiCS to Integrated Resources Life Insurance Company. Prior to the sale, FiCS had access to a virtually unlimited unsecured line of credit from Security Pacific National Bank (“SPNB”), another subsidiary of Security Pacific. After the sale, SPNB limited its unsecured line of credit to FiCS but provided FiCS with a loan facility collateralized by customer securities.

Confronted with this reduced ability to obtain unsecured financing, John Dolcemaschio, the head of FiCS’s money management department, began using SPNB’s customer-secured credit line to finance FiCS’s routine business. Such loans, however, were considered “customer credits” under Rule

15c3-3a and required FiCS to increase its reserve requirement. Beginning on April 8, 1988 and continuing through May 26, 1989, Dolcemaschio implemented the following weekly routine: FiCS substantially paid down loans secured by customer securities, ranging from \$4 million to \$52 million, just before the weekly Rule 15c3-3(e) computation and replaced them with unsecured loans at a higher interest rate. The next business day, FiCS substantially paid down the unsecured loans and reinstated the customer-secured loans. FiCS performed this substitution fifty-eight of the sixty weeks in question,^{FN2} reducing its weekly reserve requirement by \$20 million on average and by as much as \$40 million in some weeks.

FN2. Because Upton required FiCS to reserve funds in excess of FiCS's Rule 15c3-3 computation (on average \$6 million dollars per computation day from July 22, 1988 through May 26, 1989), FiCS's reserve was inadequate only during 53 of the weeks in question.

It is undisputed that FiCS complied with the literal terms of the Rule at all times. In fact, FiCS's paydown practice was standard procedure at several other brokerage firms, including two prior firms where Dolcemaschio had worked before coming to FiCS. The Commission, however, had already begun to investigate the practice, and on March 30, 1988, issued a consent order imposing sanctions on a broker-dealer engaged in such customer loan substitutions. See *In re Underwood, Neuhaus & Co.*, Exchange Act Release No. 25,531 (Mar. 30, 1988), 40 S.E.C. Docket 785.

Upton was reappointed supervisor of the money management department in July 1988, approximately three months after the paydown practice began. Although Upton had never been responsible for supervising a Rule 15c3-3(e) computation prior to working at FiCS, he had attended a discussion on the Rule at an Institute of Finance seminar. He knew about FiCS's customer-secured loan facility and was responsible for approving any

adjustments to the Rule 15c3-3(e) account. *95 As chief financial officer, he reviewed the firm's monthly Financial and Operational Combined Uniform Single (FOCUS) reports, the basic financial and operational report required of broker-dealers by the New York Stock Exchange, which included Rule 15c3-3(e) computations. He also received the firm's daily profit and loss report, which beginning in January 1989 listed the firm's customer-secured credit facility as a separate line item.

In November 1988, Colette Rex, the assistant manager of the money management department, was informally advised by an NYSE examiner, Mon Eng, that the pay-down practice was questionable and should be stopped. Although Rex instructed her subordinates to discontinue the loan substitutions, her instructions were countermanded by Dolcemaschio, who remarked that "everybody on the Street does it and if they cite us, they have to cite everybody." Rex unsuccessfully attempted to inform Upton of her conversation with Eng and the problems with the paydown practice on several occasions.

In May 1989, Upton received a telephone call from the Commission staff advising him that the paydown practice violated the spirit of Rule 15c3-3(e). Upton immediately instructed the money management department to stop paying down customer loans on the Rule 15c3-3(e) computation date. Several months later, on August 23, 1989, the Exchange circulated Interpretation Memo 89-10, in which for the first time it advised its members and member organizations that the paydown practice might violate Rule 15c3-3(e). New York Stock Exchange, *Broker-Dealer Censured for Violation of SEC Rule 15c3-3 and Discussion of the Intent and Objective of the Rule*, Interpretation Memo 89-10 (Aug. 23, 1989).

Two years later, on October 21, 1991, the Commission instituted public proceedings against Upton and Dolcemaschio. *In re Upton*, Exchange Act Release No. 29,842 (Oct. 21, 1991). The Commission's order alleged that FiCS's paydown prac-

tice resulted in a reserve bank account deficiency averaging \$20 million per week between April 8, 1988 and May 30, 1989, placing over 114 broker-dealers who cleared through FiCS and over 200,000 customers at substantial risk. The order also alleged that Dolcemaschio had aided and abetted FiCS's violation of the Rule by implementing the paydown practice and that Upton had failed reasonably to supervise Dolcemaschio because he did not discover and stop the loan substitutions.

An evidentiary hearing was held before an Administrative Law Judge on March 26 through March 28, 1992. Upton raised several challenges to the Commission's enforcement action. First, he claimed that it was improper to order proceedings against him when FiCS had technically complied with the terms of the Rule at all times. Second, he offered economic justifications for the paydown practice.^{FN3} Third, he claimed that the Commission had no statutory authority pursuant to section 15(b)(6) of the Exchange Act, [15 U.S.C. § 78o\(b\)\(6\)](#), to sanction a supervisor for negligently permitting a subordinate to aid and abet a securities violation. Fourth, he objected to the SEC's determination that he was negligent in failing to discover the money management department's violation of the Rule.

FN3. At Upton's hearing, Dolcemaschio and other members of the money management department offered the following economic justification for FiCS's weekly routine: although unsecured loans carried a higher interest rate than customer-secured loans, FiCS had to determine how much customer-secured money it wished to borrow by 4:30 p.m. Friday, whereas FiCS did not have to determine how much unsecured debt it wished to incur until 6:00 p.m. Friday. FiCS would also receive a substantial influx of money between 4:30 p.m. and 6:00 p.m. on Fridays (up to \$20 million). Dolcemaschio testified that it would be cheaper to wait until 6:00 p.m.

Friday to borrow whatever FiCS needed at higher interest rates rather than to borrow an unnecessarily larger sum of money at 4:30 p.m. Friday, albeit at lower interest rates. Conversely, during the week, it would be cheaper to use lower-interest customer-secured loans than higher-interest unsecured loans. Although Upton's economic rationale is plausible, no one ever studied the cost effectiveness of the paydown practice at FiCS. Furthermore, Rex admitted that, when first questioned about the paydown practice in January 1989, she told the Commission's compliance examiner that FiCS paid down customer-secured loans every Friday "for 15(c)(3)."

Dolcemaschio consented to a finding that he had willfully aided and abetted FiCS's *96 violation of Rule 15c3-3(e) and to the imposition of sanctions. On April 27, 1992, the Commission suspended him from association with any broker, dealer, investment company, investment adviser or municipal securities dealer for a period of nine months and ordered him to cease and desist from any present or future violation of section 15(c)(3) of the Exchange Act, [15 U.S.C. § 78o\(c\)\(3\)](#), and Rule 15c3-3(e), [17 C.F.R. § 240.15c3-3\(e\)](#). *In re Dolcemaschio*, Exchange Act Release No. 34-30,634 (Apr. 27, 1992), 51 S.E.C. Docket 543.

On May 18, 1993, after post-trial briefing, the judge issued an initial decision and order censuring Upton. *In re Upton*, Initial Decision Release No. 34 (May 18, 1993), 54 S.E.C. Docket 317. The judge held that FiCS's paydown practice was "simply a device designed to evade the requirements of [Rule 15c3-3(e)]." *Id.* at 321. Because FiCS was able to use customer funds to finance proprietary activities, the very practice the Rule was designed to prevent, FiCS did not require specific notice that this circumvention of the Rule amounted to a violation. Furthermore, the judge determined that the decision to make the weekly loan substitutions was not based on economic considerations unrelated to the

reserve account computations. The judge likewise found that Upton negligently failed to discover and to stop the paydown practice, and that the Commission had the authority to sanction him under section 15(b)(4) and (6) of the Exchange Act, 15 U.S.C. § 78o (b)(4), (6).

The Commission's Division of Enforcement requested that Upton be suspended from association with a broker-dealer in a supervisory capacity. In light of Upton's unblemished record and the "uncertainty concerning the circumstances under which the paydown practice violated Rule 15c3-3(e)," however, the judge imposed the more lenient sanction of censure. *Upton*, 54 S.E.C. Docket at 327.

After an independent review of the record on January 30, 1995, the Commission affirmed the judge's finding of liability and his choice of sanctions. *In re Upton*, Exchange Act Release No. 34-35,292 (Jan. 30, 1995), 58 S.E.C. Docket 1864 (final decision). An order censuring Upton was issued that same day. *In re Upton*, Exchange Act Release No. 34-35,292 (Jan. 30, 1995), 58 S.E.C. Docket 1871.

II.

On review, the Commission's findings of fact are deemed conclusive if supported by substantial evidence, 15 U.S.C. § 78y(a)(4), and its conclusions of law are upheld unless arbitrary, capricious, or an abuse of discretion, *Markowski v. S.E.C.*, 34 F.3d 99, 104 (2d Cir.1994) (citing *Higgins v. S.E.C.*, 866 F.2d 47, 49 (2d Cir.1989)).

A. Rule 15c3-3(e)

Subparagraph (e) of Rule 15c3-3 was promulgated pursuant to section 15(c)(3) of the Securities Exchange Act of 1934, which authorized the Commission to prescribe rules and regulations "requir[ing] the maintenance of reserves with respect to customers' deposits or credit balances." 15 U.S.C. § 78o (c)(3). The purpose of the Rule is clear:

to insure that customers' funds held by a broker-dealer ... and the cash which is realized through the lending, hypothecation and other permissible uses of customers' securities are deployed in safe areas of the broker-dealer's business related to servicing his customers, or to the extent that the funds are not deployed in these limited areas, that they be deposited in a reserve bank account.

Adoption of Rule 15c3-3 under the Securities Exchange Act of 1934, Exchange Act Release No. 9856 (Nov. 10, 1972). Earlier drafts of the Rule required broker-dealers to perform the reserve computation on a daily basis. See *Notice of Revision of Proposed Rule 15c3-3 Under the Securities Exchange Act of 1934*, Exchange Act Release No. 9775 (Sept. 14, 1972). The Commission revised the Rule to allow weekly, and in some cases monthly, computation of the reserve requirement based on a variety of considerations raised by the securities industry during the comment period: the prohibitive cost of performing daily computations for smaller broker-dealers; the difficulty of tracing and separating customer and non-customer transactions on a daily basis given established accounting, *97 clearance and settlement procedures; and the increased burden on firms employing outside computer service facilities for recording transactions.

As early as 1986, the Commission began investigating the use of the paydown practice in several brokerage firms.^{FN4} The Commission referred several such "violations" of Rule 15c3-3(e) to the New York Stock Exchange and instructed individual broker-dealers to discontinue the practice. The Exchange, however, informed the Commission that it would not cite any of these firms for rule violations because "there ha[d] been no written interpretation with respect to this practice." Furthermore, in a letter to the Commission dated February 29, 1988, one firm subjected to the Commission's auditing process "respectfully suggest[ed] that this interpretation [of Rule 15c3-3(e)] should be communicated formally to the broker-dealer community rather than on a firm-by-firm basis through the

audit process.”

FN4. These firms are: Morgan Stanley & Co.; Securities Settlement, Inc.; Thompson, McKinnon Securities, Inc.; The Illinois Company; Brokerage Clearing Services, Inc.; Shatkin-Lee Securities Co.; Mesirov & Co.; Underwood, Neuhaus & Co.; Roney & Co.; Interstate Securities Corp.; and FiCS.

On December 16, 1987, the Commission ordered public administrative proceedings against the brokerage firm Underwood, Neuhaus & Co. and two of its operations managers for paying down loans secured by customer securities on its Rule 15c3-3(e) computation day and reinstating them shortly thereafter on six occasions. *In re Underwood, Neuhaus & Co.*, Exchange Act Release No. 25,200 (Dec. 16, 1987). The order also charged that Underwood, Neuhaus had pledged customer securities to obtain loans on six occasions. The Commission accepted an offer of settlement in that case and issued a consent order. *Underwood, Neuhaus*, 40 S.E.C. Docket at 785.

In light of the number of brokerage firms engaged in the paydown practice, in late 1987 the Commission and the Exchange established a Joint Industry Rule 15c3-3(e) Committee, composed of members of the Commission's staff, members of the New York Stock Exchange, and industry representatives, to discuss the impact of the *Underwood, Neuhaus* decision on securities firms as well as to clarify the Commission's interpretation of Rule 15c3-3. On August 23, 1989, after Upton had stopped the paydown practice at FiCS, the Exchange issued to its members and member organizations Interpretation Memo 89-10, entitled “Broker-Dealer Censured for Violation of SEC Rule 15c3-3 and Discussion of the Intent and Objective of the Rule.” Noting the sanctions imposed on Underwood, Neuhaus, the Memo stated the Commission's position that “substitution of proprietary or non-customer bank loans for customer bank loans only for the week-end or on the day of

the Reserve Formula Computation may be regarded as an intentional circumvention of the rule if the customer loans are reinstated shortly thereafter.”

B. Reasonable Notice

[1][2] The Commission is entitled to interpret Rule 15c3-3(e) expansively in order to proscribe conduct that would otherwise constitute an evasion of the reserve requirement. Rule 15c3-3(e) technically requires only that broker-dealers perform a precise computation on a specific day of the week; nonetheless, as a result of FiCS's loan manipulations, FiCS's customer loans may have been exposed to substantial risk most of the week. Adopting Upton's narrow construction of the Rule “would be to exalt artifice above reality and to deprive the [rule] in question of all serious purpose.” *Gregory v. Helvering*, 293 U.S. 465, 470, 55 S.Ct. 266, 268, 79 L.Ed. 596 (1935). The Commission may therefore broadly construe its rules to prevent such conduct. Likewise, because the Commission cannot foresee every possible evasion of the Rule, it may determine specific applications of the Rule on a case-by-case basis. *Cf. Shalala v. Guernsey Mem. Hosp.*, 514 U.S. 87, ---, 115 S.Ct. 1232, 1237, 131 L.Ed.2d 106 (1995) (“The APA does not require that all the specific applications of a rule evolve by further, more precise rules rather than by adjudication.”).

*98 Upton, however, claims that he should not be held liable for evading the literal proscriptions of Rule 15c3-3(e) because the Commission knew about the paydown practice well before the underlying events in this action took place and yet did not publicly condemn it until Interpretation Memo 89-10 was released on August 23, 1989. In rejecting Upton's argument, the Commission held that “[t]he language of the Rule, coupled with the releases preceding its adoption,” clearly evinced the Commission's intent to forbid any evasion of the Rule and that “[a]ny remaining uncertainty should have been erased by [the 1988 consent order] in *Underwood, Neuhaus.*” *Upton*, 58 S.E.C. Docket at 1867.

75 F.3d 92, Fed. Sec. L. Rep. P 99,011
 (Cite as: 75 F.3d 92)

[3][4] Due process requires that “laws give the person of ordinary intelligence a reasonable opportunity to know what is prohibited.” *Grayned v. City of Rockford*, 408 U.S. 104, 108, 92 S.Ct. 2294, 2298-99, 33 L.Ed.2d 222 (1972). Although the Commission's construction of its own regulations is entitled to “substantial deference,” *Lyng v. Payne*, 476 U.S. 926, 939, 106 S.Ct. 2333, 2341-42, 90 L.Ed.2d 921 (1986), we cannot defer to the Commission's interpretation of its rules if doing so would penalize an individual who has not received fair notice of a regulatory violation. See *United States v. Matthews*, 787 F.2d 38, 49 (2d Cir.1986). This principle applies, albeit less forcefully, even if the rule in question carries only civil rather than criminal penalties. See *Village of Hoffman Estates v. Flipside, Hoffman Estates, Inc.*, 455 U.S. 489, 498-99, 102 S.Ct. 1186, 1193-94, 71 L.Ed.2d 362 (1982).

[5] Because there was substantial uncertainty in the Commission's interpretation of Rule 15c3-3(e), Upton was not on reasonable notice that FiCS's conduct might violate the Rule. The Commission was aware that brokerage firms were evading the substance of Rule 15c3-3(e) by temporarily substituting customer loans on the Rule's computation date as early as 1986, two years before the events in this case took place. Apart from issuing one consent order carrying “little, if any, precedential weight,” *In re Shipley*, 45 S.E.C. 589, 591 n. 6 (1974), the Commission took no steps to advise the public that it believed the practice was questionable until August 23, 1989, after Upton had already stopped the practice. The Commission may not sanction Upton pursuant to a substantial change in its enforcement policy that was not reasonably communicated to the public. Cf. *Gerstle v. Gamble-Skogmo, Inc.*, 478 F.2d 1281, 1294 n. 13 (2d Cir.1973) (“[F]or the future the Commission should proceed by a rule or a statement of policy that would receive wider public attention....”).

The Commission also alleges that Upton should have been aware that FiCS's loan substitu-

tions violated Rule 15c3-3(e) because Rex had been informally warned by an NYSE examiner. Eng, a personal friend of Rex, had advised her that FiCS “did not technically have a violation but that there was a problem with the spirit of the rule” and that the practice “was being looked at closely by the regulatory bodies.” Eng suggested that “it would be better for [FiCS] to stop [the] practice.” Although his advice turned out to have been correct, Eng's informal consultation with Rex was not actual notice of a change in the Commission's enforcement policy. At best, Eng's comments reveal the Commission's concern with the practice. They do not indicate that the Commission considered the practice a violation of the Rule.

The petition is granted, and the Commission's order is vacated.

C.A.2,1996.

Upton v. S.E.C.

75 F.3d 92, Fed. Sec. L. Rep. P 99,011

END OF DOCUMENT