120 FERC ¶ 61,085
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

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

Amaranth Advisors L.L.C.
Amaranth LLC
Amaranth Management Limited Partnership
Amaranth International Limited
Amaranth Partners LLC
Amaranth Capital Partners LLC
Amaranth Group Inc.
Amaranth Advisors (Calgary) ULC
Brian Hunter
Matthew Donohoe

Docket No. IN07-26-000

ORDER TO SHOW CAUSE AND NOTICE OF PROPOSED PENALTIES

(Issued July 26, 2007)

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1. Pursuant to section 385.209(a)(2) of the Commission's regulations[1] and the Commission's *Statement of Administrative Policy Regarding the Process for Assessing Civil Penalties*,[2] the Commission directs the above-captioned firms (collectively, the Amaranth Entities) and former Amaranth Entities' employees Brian Hunter and Matthew Donohoe (collectively, along with the Amaranth Entities, the Respondents) to show cause why they have not violated section 1c.1 of our regulations,[3] which prohibits the manipulation of natural gas prices. We further direct the Respondents to show cause why they should not be assessed civil penalties for, and required to disgorge unjust profits plus

[1] 18 C.F.R. § 385.209(a)(2) (2006).

[2] *See Statement of Administrative Policy Regarding the Process for Assessing Civil Penalties*, 117 FERC ¶ 61,317, at P 7 (2006).

[3] 18 C.F.R. §1c.1 (2006) (Anti-Manipulation Rule).

interest from, these violations of almost $300,000,000 (in total). We direct the Respondents to file with the Commission such answers within 30 days of the date of this order.

2. This case concerns the important nexus between the wholesale interstate natural gas markets subject to our jurisdiction and the New York Mercantile Exchange (NYMEX) Natural Gas Futures Contract (the NG Futures Contract). In recent years, many market participants in the physical natural gas markets have used the NG Futures Contract as a significant benchmark for prices in physical natural gas. In this case, manipulation of Commission-jurisdictional prices resulted from manipulation of the NG Futures Contract.

3. In the wake of the manipulation of prices in western energy markets during 2000-01, Congress expanded our anti-manipulation authority with the enactment of the Energy Policy Act of 2005 (EPAct 2005).[4] It empowered us to prohibit manipulation, not only by direct participants in the physical natural gas (or wholesale electric) markets, but also where, as here, "any entity" commits manipulation directly or indirectly, in connection with jurisdictional transactions.[5] Moreover, recognizing the increasing importance of deterring misconduct to protect the competitiveness of energy markets, Congress substantially increased through EPAct 2005 the remedies available to us to punish and deter violations of Commission regulations, orders, rules or policies, including increased civil penalties of up to $1,000,000 per violation, per day.[6]

4. This case presents evidence of serious wrongdoing in violation of the new anti-manipulation proscriptions. The Respondents received multiple opportunities to present evidence and argument prior to the issuance of this order, both orally and in writing. The Commission is nevertheless preliminarily of the view that Respondents violated the Commission's regulation as set forth in this order. The Respondents are now provided with another chance to respond.[7] Should any such responses fail to address fully the case

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[4] EPAct 2005, Pub. L. No. 109-58, § 315 (2005) (codified at 15 U.S.C. 717c-1).

[5] *Id.*

[6] EPAct 2005, Pub. L. No. 109-58, § 314(b) (2005) (codified at 15 U.S.C. 717t-1).

[7] Under the applicable rule, 18 C.F.R. § 385.213(c) (2006), Respondents must file answers that provide a clear and concise statement regarding any disputed factual issues and any law upon which they rely. Respondents must also, to the extent practicable, admit or deny, specifically and in detail, each material allegation of this order and set forth every defense relied upon. Upon receipt of Respondents' answers, the Commission

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presented here, the matter will present an appropriate occasion for the first exercise of our expanded substantive regulatory authority, as well as a substantial exercise of our expanded remedial authority.

5. In this case, we preliminarily conclude that the Respondents manipulated the price of Commission-jurisdictional transactions by trading in the NG Futures Contract on February 24, March 29, and April 26, 2006, which trading was designed to produce, and in fact produced, artificial "settlement prices" (discussed more fully below) for these contracts. The evidence of the manipulation is strikingly clear. As discussed in detail *infra*, the Respondents manipulated the final, or "settlement," price of the NG Futures Contract on the above dates by selling an extraordinary amount of these contracts during the last thirty minutes of trading before these futures contracts expired. Respondents did so with the purpose and effect of driving down the settlement price. Considered in isolation, this trading would be economically irrational because by driving down the settlement price, Amaranth made less on the sales of these contracts. However, Amaranth had previously taken positions several times *larger* in various financial derivatives whose value *increased* as a direct result of the decrease in the settlement price of the NG Futures Contract. Thus, for every dollar lost on its sales of the NG Futures Contract, it would gain several dollars on its derivative financial positions. The motive for Amaranth's manipulative scheme thus supplied, Respondent Hunter (Amaranth's head energy trader) observed that he just needed the NG Futures Contract settlement price to "get smashed on settle" as he put it in one of many "instant messages" or IMs revealed in staff's investigation.[8]

6. Moreover, Amaranth and its traders Hunter and Donohoe intentionally manipulated the settlement price of the NG Futures Contract knowing that the NG Futures Contract settlement price is explicitly used to price a substantial volume of Commission-jurisdictional natural gas transactions (namely, "physical basis" transactions, described below, and the various monthly indices that are calculated using physical basis transactions). As Amaranth has acknowledged, the "public relies on [the settlement price of the NG Futures Contract] as a key price benchmark for physical and financial contracts involving natural gas" and that the manipulation of this price can harm

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has many options as to how to proceed. It may issue an order on the merits, request briefs or set specified issues for a trial-type hearing, with full discovery, before an administrative law judge (ALJ), request a recommendation or report from an ALJ, or provide for any other process that would justly and efficiently resolve the matter.

[8] AALLC_REG0684186 (Instant Message from Hunter to Amaranth trader Matthew Calhoun, February 24, 2006).

"all natural gas market participants, including consumers whose cost of natural gas most certainly [is] tied" to the settlement price.[9] Accordingly, the Respondents intentionally or recklessly manipulated prices in connection with Commission-jurisdictional transactions, and thus violated the Commission's Anti-Manipulation Rule.

7. Amaranth's manipulative scheme began, as Hunter stated in another IM, as "a bit of an expiriment [sic]"[10] devised by Hunter on or before February 23, 2006, the day before the first manipulation occurred. The February 24 "experiment" was repeated and refined on March 29 and April 26. Ultimately, and notoriously, Amaranth experienced massive trading losses in the fall of 2006 and ceased investment operations. While related to Amaranth's overall natural gas portfolio, that failure is not directly tied to the manipulations and, as discussed more fully *infra*, this matter was initiated by Commission staff on a non-public basis well before those losses and collapse.

8. By granting the Commission enhanced civil penalty and anti-manipulation authority in EPAct 2005, Congress gave us a clear mandate to punish such gaming of the energy markets that are subject to our jurisdiction, particularly where, as here, the manipulation harmed all market participants. Based on all the facts and circumstances, including the serious nature of the violations and the absence of any material mitigating factors, we preliminarily conclude that it would be appropriate to order severe civil penalties of $200,000,000 in the case of the Amaranth Entities, $30,000,000 in the case of Hunter, and $2,000,000 in the case of Donohoe, as well as disgorgement of substantial unjust profits from the Amaranth Entities of over $59,000,000 plus interest.

I. BACKGROUND

A. The Relevant Markets

9. The manipulation in this case involves three distinct but interrelated markets: (1) the NG Futures Contract market, which contracts are traded exclusively on NYMEX; (2) a variety of "derivative" financial products, most of which are termed "swaps" (some traded on NYMEX, some "over the counter" (*e.g.*, on Intercontinental Exchange, Inc. (ICE)), and all of which derive their value based on the "settlement price" of the NG Futures Contract for a given month; and (3) Commission-jurisdictional wholesale natural

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[9] AMARANTH_REG_054783-84 (Letter from Amaranth to NYMEX, August 30, 2006).

[10] AALLC_REG0684227 (Instant Message from Hunter to "gloverb", February 24, 2006). Hereinafter, "expiriment" will generally be correctly spelled as "experiment."

gas sales, namely, wholesale natural gas sales in interstate commerce that are not "first sales" within the meaning of the Natural Gas Policy Act of 1978 (NGPA).[11] The first market affects the second and third inasmuch as the NG Futures Contract settlement price determines, in whole or in part, the value of the derivatives and the price of a substantial volume of Commission-jurisdictional wholesale natural gas sales.

1. The NG Futures Contract

10. The NG Futures Contract is a contract for the future delivery of 10,000 MMBtu of natural gas over the course of the contract month to the buyer's interconnection on the Sabine Pipe Line Co.'s Henry Hub in Louisiana.[12] The NG Futures Contract market provides important benefits to the physical natural gas markets. Highly liquid trading of the NG Futures Contract is driven by sophisticated participants who study the fundamentals that affect future natural gas prices such as weather, storage, injections, withdrawals, production and the like. Tens of thousands of prompt-month contracts are traded on a daily basis, with trading volume increasing as the time to maturity decreases. As a result, many market participants view NG Futures Contract pricing as a reliable price signal for the purpose of transacting or planning for natural gas sales. The market also allows physical natural gas market participants to hedge against risks of future price volatility on their fixed contract obligations.

a. Trading in the NG Futures Contract

11. During the relevant time period (early 2006), the NG Futures Contract was principally traded in an "open outcry" market on the NYMEX trading floor located in the financial district in New York, New York. It is an open and continuous auction by NYMEX members who are acting on behalf of their customers, the brokerage companies they represent, or themselves.[13] It is referred to as "open outcry" because, instead of a

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[11] 15 U.S.C. § 3431(a) (2000).

[12] *See* NYMEX Exchange Rulebook §§ 220.05, 220.10-12 ("Natural Gas Futures Contract"), *available at* http://www.nymex.com/rule_main.aspx?pg=33.

[13] The following description of NYMEX floor trading is based largely on the summary provided on the NYMEX website: http://www.nymex.com/how_exchang_works.aspx. Electronic trading on the NYMEX is currently eclipsing trading in the open outcry pit; in January 2007, NYMEX volume on the CME Globex electronic trading platform for the first quarter 2007 was 597,000 contracts per day, while the NYMEX floor-traded average daily volume was 330,000 contracts per day. NYMEX, *NYMEX Reports Record First Quarter 2007 Volume of*

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single auctioneer selling an item, every member on the floor can shout out bids (*i.e.*, prices at which they are willing to buy a contract) or offers (*i.e.*, the prices at which they wish to sell a contract), in what may appear to be a somewhat chaotic and disorganized process. At some times, there may be one hundred or more traders on the floor or "pit," yelling and gesturing all at the same time as they struggle to find counterparties and fulfill their client's orders.

12. In fact, the seemingly chaotic NYMEX "pit" is an efficient market clearing environment. The NYMEX floor traders, normally wearing jackets with distinctive colors to identify themselves or the brokerage company for which they work, stand in the trading rings or pits on the trading floor, which are arranged like little amphitheaters with wide steps descending to the center. Brokers' phone clerks, who are outside the trading pit area, take orders from customers and typically record those orders on small slips of paper, noting the volume of the order, the terms requested and any other information pertinent to the execution of the order. Another broker employee may physically deliver the orders to the floor traders in the ring, or the orders may be verbally transmitted to the floor broker. Floor traders who wish to accept a bid or offer do so by shouting at and gesturing (using well known pit gestures) to the trader making the bid or offer. Experienced traders can detect in real time the status and direction of pricing and volumes by visually and audibly monitoring the trading behavior of other brokers in the ring. Importantly, for purposes of this case, and as discussed more fully below, when a floor broker with a large order to sell begins to offer to sell contracts serially and in rapid succession, and other brokers quickly accept or "lift" the offers, experienced brokers who may have orders to buy will perceive the intentions of the large seller. Rather than bidding at prevailing prices and having sellers "hit" their bids, they will wait for the large seller to offer at a lower price and then "lift" those offers at such lower prices. In such a manner, the large seller can (intentionally or unintentionally) move the prevailing prices in the ring in a downward direction.

13. When a trade is executed, each selling broker must record each transaction on a card about the size of an index card which shows the commodity, quantity, delivery month, price, broker's badge name and badge name of the buyer. The pit card must be tossed (physically) into the center of the trading ring within one minute of the completion of a transaction. A NYMEX employee sits in the center of the trading ring, collects and time-stamps the cards, and the data on the card is then entered into a NYMEX central

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1.512 Million Contracts Per Day, Up 40 Percent From 2006 Period; Record March Volume Averaged 1.372 Million Contracts Per Day (Apr. 3, 2007), http://investor.nymex.com/releasedetail.cfm?ReleaseID=236556.

computer system. In addition, most brokers will record the essential terms of the execution on the same slips of paper their firms created with respect to the client orders.

b. NG Futures Contract Settlement Price

14. The NG Futures Contract "settlement price" is the volume-weighted average price of trades made during the 30-minute "settlement period," which is the last 30 minutes of trading on the termination day for the "prompt-month" contract. The "prompt-month" is the next calendar month. The "termination day" for the NG Futures Contract is the third-to-last business day of the month preceding the prompt month, and the settlement period occurs from 2:00 p.m. to 2:30 p.m. on the termination day (except when the NYMEX is operating on a holiday schedule). So, for example, for August 2007, the prompt-month contract is the September 2007 NG Futures Contract. The last business day for August 2007 is Friday, August 31, so the settlement period for the September 2007 NG Futures Contract will take place from 2:00 p.m. to 2:30 p.m. on Wednesday, August 29, 2007.

15. A few futures market participants hold their positions to the end of the settlement period for the prompt-month contract, and thus are obligated to "go to delivery." That is to say, the "futures" contract for the prompt month becomes a present contractual obligation for the purchase and sale of the physical gas. Longs must take delivery and shorts must make delivery of 10,000 MMBtu per contract over the course of the contract month, at the buyer's interconnection on the Sabine Pipe Line Co.'s Henry Hub in Louisiana.[14] As noted above, the price for the gas that goes to delivery is the settlement price of the NG Futures Contract.[15] However, it should be noted that the vast majority of NG Futures Contracts do not in fact go to delivery. For the contract months in question, the height of open interest[16] during the life of the contracts was 103,552 for the March

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[14] *See* NYMEX Exchange Rulebook §§ 220.10-12, *available at* http://www.nymex.com/rule_main.aspx?pg=33.

[15] *See* NYMEX Exchange Rulebook § 220.11(D), *available at* http://www.nymex.com/rule_main.aspx?pg=33.

[16] "Open Interest" is the total number of futures contracts long or short in a delivery month or market that has been entered into and not yet liquidated by an offsetting transaction or fulfilled by delivery. CFTC Glossary, http://www.cftc.gov/opa/glossary/opaglossary_o.htm. Thus, as the clock is winding down during the settlement period, the open interest (both in terms of the total number of contracts and the number of counterparties) is rapidly decreasing, so that a given number of contracts will represent an increasing share of the outstanding prompt-month contracts.

Contract, 82,372 for the April Contract, and 109,265 for the May Contract,[17] while only the following number of contracts went to delivery: 1,697 for March (1.6 percent of largest open interest), 1,230 for April (1.5 percent of largest open interest), and 1,748 for May (1.6 percent of largest open interest).[18]

16. Most market participants prefer to *avoid* trading during the settlement period. As the time to termination is winding down, price risk and volatility may increase, while market liquidity and the remaining open interest are decreasing. Most market participants liquidate or "roll" (meaning that they transfer their position into later contract months) their open long or short positions in the prompt-month NG Futures Contract well before the settlement period. A small number of floor brokers known as "locals"[19] trade on their own account. For locals, these price and liquidation risks are less prominent because they trade in the ring on their own information (as opposed to clients who may be calling in orders). They can perceive the market movements in real time and trade, in the moment, on these market movements, buying and selling in the closing minutes to earn profits here and there on individual trades – and providing liquidity as the contract proceeds to termination.[20] As will be seen *infra*, however, some locals also act as brokers for large institutional clients.

2. NG Futures Contract Settlement Price Effects on Derivatives

17. The NG Futures Contract final settlement price sets, in whole or in part, the settlement price for a wide range of natural gas derivatives, including financially-settled natural gas futures "swaps" and "basis swaps."[21] Certain "options" can also settle on the final NG Futures Contract settlement price.

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[17] NYMEX NG Futures Contract trade data, *available at* FutureSource, NGH06, NGJ06, NGK06, http://www.esignal.com/futuresource.

[18] NYMEX_00031 (NYMEX NG Futures Contract data).

[19] *See* NYMEX Frequently Asked Questions, http://www.nymex.com/faq.aspx.

[20] *See, e.g.* Bolling Dep. 34:18-23 (June 29, 2007).

[21] A "basis swap" is a derivative instrument whose value is based on the difference between the settlement price of the NG Futures Contract for a given contract month and that of the monthly "index" at a specified location for that same month. *See, e.g.*, NYMEX Exchange Rulebook § 521.02 ("NYMEX Transco Zone 6 Basis Swap (Platts IFERC) Contract"):

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18. A natural gas futures "swap" (swap) is a purely financial instrument that operates much like the NG Futures Contract except that, rather than becoming a physical delivery or purchase obligation, it settles financially at the termination of the NG Futures Contract at the NG Futures Contract's final settlement price. Financial swaps do not entail physical delivery risk. The buyer in a swap transaction for a given contract month agrees to pay the seller a "fixed price," *i.e.*, a specific amount determined at the time when the transaction occurs. The seller pays the buyer a "floating price,"[22] which will be the actual final settlement price for the NG Futures Contract and which is not known at the time of the swap transaction. Thus, buyers and sellers hope to profit based on the relation between the price paid at the time of the transaction and the ultimate settlement price of the NG Futures Contract: the buyer of the swap profits if the floating price (*i.e.*, the actual final NG Futures Contract settlement price) is higher than the fixed price at which the swap is trading at the time that the transaction takes place; the seller profits if the floating price is lower than the fixed price.

> The Floating Price for each contract month will be equal to the Platts Inside FERC's Gas Market Report ('Platts IFERC') Transco Zone 6 Index ('Index') published in the table titled 'Market Center Spot-Gas Prices' in the first regular issue of the contract month minus the NYMEX (Henry Hub) Natural Gas Futures contract final settlement price for the corresponding contract month.

available at http://www.nymex.com/rule_main.aspx?pg=90. As discussed in more detail below, a monthly index price is normally calculated based on the volume-weighted average price of fixed-price and/or physical basis transactions executed during "bid week," which is the last five business days of the month.

[22] *See, e.g.*, NYMEX Exchange Rulebook § 508.02 ("Henry Hub Swap Futures Contract") ("The Floating Price [*i.e.*, the final settlement price of the swap] for each contract month will be equal to the NYMEX (Henry Hub) Natural Gas Futures contract final settlement price for the corresponding contract month on the last trading day for that contract month."), *available at* http://www.nymex.com/rule_main.aspx?pg=77. Similarly, for the ICE natural gas swap, the floating price is "the monthly last settlement price for natural gas futures as made public by the New York Mercantile Exchange (NYMEX) for the month of production." ICE, Product Details for Natural Gas Swap, Fixed for NYMEX LD1, *available at* https://www.theice.com/productguide/productDetails.do?productId=53&productTypeId=1093&display=.

19. A natural gas futures "option" is a contract that gives the buyer the right, but not the obligation, to buy or sell a specified quantity of futures for a particular contract month at a specific price within a specified period of time, regardless of the futures market price. If an option is exercised, or "assigned," a futures position is established. Like all futures, a future created from an option can be liquidated by making an offsetting purchase or sale, or can go to delivery. An option can be either a "call" or a "put." The buyer of a natural gas futures "call" option traded on NYMEX has the right, but not the obligation, on the expiration day[23] to purchase one NG Futures Contract at the "strike price," which is a price specified at the time the option is written.[24] Conversely, the seller (or "writer") of the call has the obligation to sell one NG Futures Contract at the strike price to the buyer of the call, in the event the option is exercised. Similarly, the buyer of a "put" option has the right, but not the obligation, on the expiration day to sell one NG Futures Contract at the strike price, while the writer (seller) of the put has an obligation to buy one NG Futures Contract at the strike price from the buyer upon exercise. In either case, the buyer of the put or call makes an initial payment to the writer of the put or call, referred to as the option premium. Traders can also buy and sell options on purely financial contracts, such as swaps. As with the other natural gas derivatives described above, the price of the NG Futures Contract has a direct relationship to the value of options. The NG Futures Contract is a basic component that determines the value of the options. While options on prompt-month futures and other derivatives expire on the day before termination day, trading during the settlement period on termination day continues to affect the value of options on future-month instruments. Trading during the last two minutes on the termination day is particularly important, as options continue to trade at prices in relation to the price of the expiring NG Futures Contract. As discussed more fully below, options and other derivatives are given a non-final settlement price based on trading during these two minutes, which determines the options' marked-to-market[25] value for that day.

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[23] There are various option expiration days, depending on the terms of the particular option instrument in question. This discussion will be limited to the NYMEX natural gas option, which expires the day before the termination day for the NG Futures Contract for that month, *i.e.*, the fourth-to-last business day of the month.

[24] There will normally be a range of strike prices for each put and call of a given contract month, separated by $0.25 or $0.50 intervals. For example, an August call with a strike price of $5 would be identified as simply the August $5 call.

[25] Marked-to-market values represent the gains or losses in each contract position resulting from changes in the price of the futures or option contracts at the end of each

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3. NG Futures Contract Settlement Price Effects on Prices in Commission-Jurisdictional Transactions

20. Importantly, from the perspective of our jurisdiction, the NG Futures Contract settlement price determines the price of a substantial proportion of Commission-jurisdictional transactions, most directly, "physical basis" transactions. A physical basis transaction is a contract for delivery of natural gas at some location in the wholesale natural gas delivery system that spans the nation. The price of a physical basis transaction is the NG Futures Contract settlement price for a given month, plus or minus a fixed amount representing the expected "basis" (or differential for delivery at the delivery location versus Henry Hub) at the time of the transaction.[26] Consequently, any manipulation of the NG Futures Contract settlement price will inevitably result in a penny-for-penny change in the prices used in physical basis transactions.

21. A second, and larger, category of Commission-jurisdictional transactions that rely to a great degree on the NG Futures Contract are "index" transactions. Monthly price indices are compiled and published by several trade press entities (*e.g.*, Platts or NGI) who obtain information provided on a voluntary basis by market participants about trades occurring at various physical natural gas trading locations.[27] Monthly indices are normally calculated based on the volume-weighted average price of fixed-price and/or physical basis transactions executed at such locations during "bid week," which is the last five business days of the month. As such, the NG Futures Contract settlement price is included in the calculation of indices for locations where bid week physical basis trades are reported to publishers.

22. Figure 1 below shows that high percentages of bid week transactions at index points in the East, Mid-Continent, and producing regions along the Gulf coast are physical basis transactions. Consequently, monthly indices at these locations are set primarily by physical basis transactions that explicitly use the NG Futures Contract

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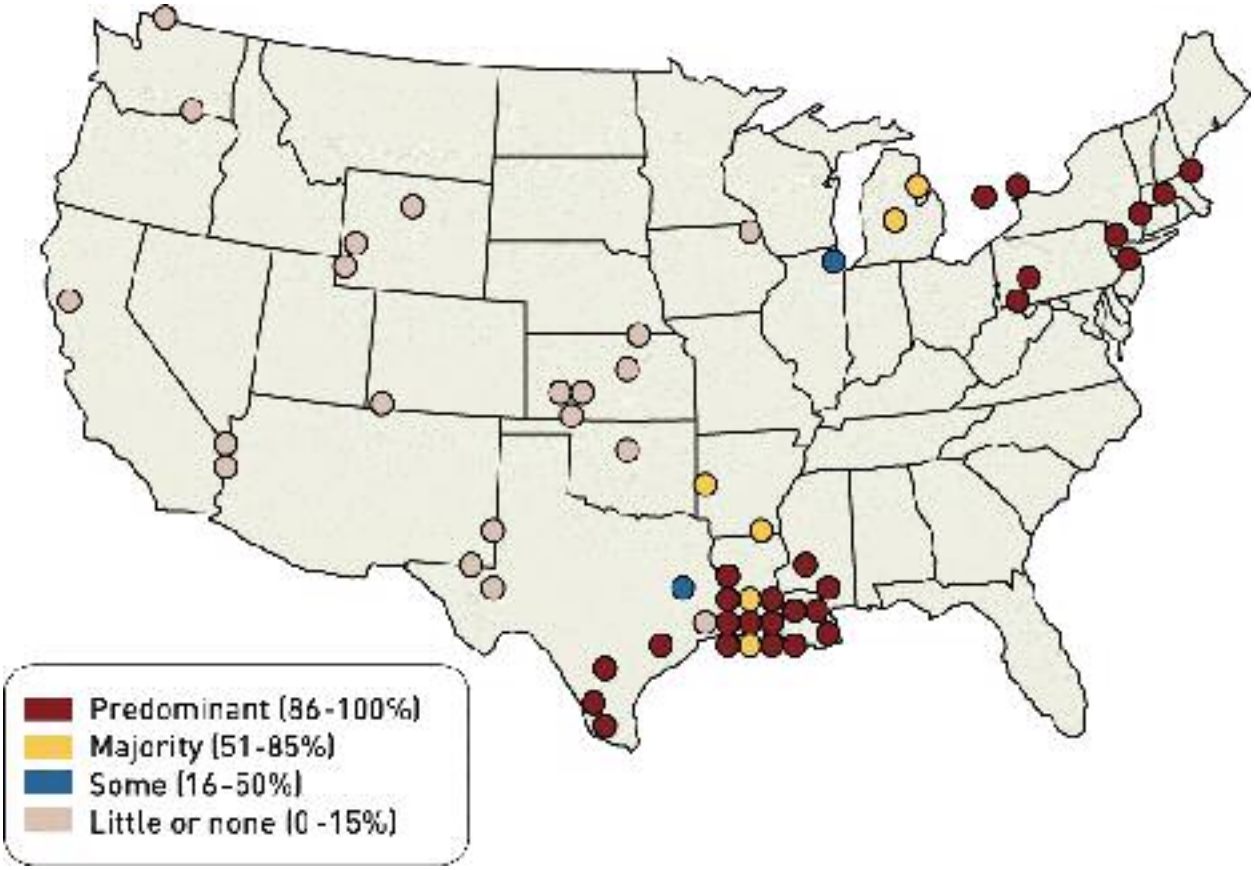
trading session. *See* CFTC Glossary, http://www.cftc.gov/opa/glossary/opaglossary_m.htm.

[26] So for example, if gas for delivery to Transco Zone 6 (*i.e.*, New York) during August 2007 is expected to be $1 greater than gas delivered to Henry Hub for that month, a physical basis trade for the prompt month would be the settlement price of the August 2007 NG Futures Contract settlement price, plus one dollar.

[27] *See generally Policy Statement on Natural Gas and Electric Price Indices*, 104 FERC ¶ 61,121 (2003), *clarification granted*, 105 FERC ¶ 61,282 (2003).

settlement price as a reference price. If the NG Futures Contract settlement price is rendered artificial due to manipulation, this artificial price element will be directly transmitted into index prices to the extent that they are calculated using physical basis transactions.

Figure 1: Use of Physical Basis in Natural Gas Price Indices at Major Trading Points, 2006[28]



23. The price indices that rely heavily on physical basis transactions, in turn, are widely used in bilateral natural gas markets as a price term. According to a report prepared by the American Gas Association (AGA), a trade group for natural gas local distribution companies (LDCs), "it is clear that first-of-the-month index pricing [*i.e.*,

[28] FERC, *2006 State of the Markets Report* at 50 (2007), *available at* http://www.ferc.gov/market-oversight/st-mkt-ovr/st-mkt-ovr.asp.

monthly indices] dominates the market for long- and mid-term supply agreements." This report surveyed 30 LDCs and made the following findings: (i) for long-term gas purchases (one year or more), 20 of 22 responding companies used monthly indices, with 13 of those companies using monthly indices for 51 to 100 percent of their long-term purchases; (ii) for mid-term purchases (more than one month, less than one year), 24 of 29 respondents used monthly indices, with 15 of those companies using monthly indices for 51 to 100 percent of their purchases; (iii) for short-term purchases (less than one month), 19 of the respondents used monthly indices; and (iv) 26 of 29 respondents used monthly indices to buy gas for storage injection, with 11 of those companies using monthly indices for 76 to 100 percent of their storage gas.[29] The AGA report further found that several of these LDCs used the NYMEX price itself for supply agreements: (i) four of the 22 respondents to this question used NYMEX for long-term supply agreements; (ii) seven of the 29 respondents used NYMEX for mid-term supply agreements, with three of these using it for 76 to 100 percent of their purchases; (iii) seven of the 29 respondents used NYMEX for short-term pricing (less than one month), with five of these using it for 51 to 100 percent of their purchases; and (iv) three of the 29 respondents used NYMEX to buy gas for storage injection.[30]

24. In addition to market participants relying on the NG Futures Contract settlement price, or on indices that substantially report prices based on the settlement price, regulators at the state level sometimes look to index or settlement price-based purchases of natural gas by LDCs in evaluating whether such purchases were prudent. Accordingly, LDCs naturally have increasingly come to rely on such prices in satisfying themselves that their purchases will pass regulatory scrutiny.

25. Jurisdictional sellers of natural gas are not required to report their sales to the Commission. While we have issued a Notice of Proposed Rulemaking to require future annual reporting of aggregate physical natural gas sales,[31] pursuant to the transparency provisions of EPAct 2005,[32] we cannot, nor need we, determine at this time the precise

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[29] AGA, *LDC Supply Portfolio Management During the 2005-2006 Winter Heating Season* at 3-5, 11 (2006).

[30] *Id.* at 11-14, 17.

[31] Notice of Proposed Rulemaking, *Transparency Provisions of Section 23 of the Natural Gas Act; Transparency Provisions of the Energy Policy Act of 2005*, 72 Fed. Reg. 31,217 (June 6, 2007), FERC Stats. & Regs. ¶ 32,614 (2007).

[32] EPAct 2005 § 316 (codified at 15 U.S.C. § 717t-2).

volume or proportion of total "jurisdictional" gas transactions that are priced using physical basis or that are sold at index prices determined, in whole or in part, by physical basis trades. We have a variety of indications that the volume is substantial. For example, as discussed at our October 13, 2006 Technical Conference on Price Transparency, numerous blanket market certificate sellers have notified the Commission that they report their sales to indices, including sellers like BP, ConocoPhillips, Sempra, Coral, and Chevron. Given the proportion of the index transactions that are physical basis, it stands to reason that these jurisdictional sellers are selling a large proportion of physical basis. In addition, monthly wholesale physical gas transactions executed on ICE during 2006 indicate that there were over 747 Bcf of wholesale physical basis transactions during this period. The following volumes of physical basis trades were executed on ICE at major Eastern, Mid-Continent, and Gulf Coast trading hubs: Columbia Gas TCO Pool (Appalachia) – 92.8 Bcf; TETCO-M3 (Eastern Texas) – 76.7 Bcf; Dominion South (Mid-Atlantic) – 76.1 Bcf; Transco Z6 (New York) – 52.9 Bcf; Centerpoint-East (Mid-Continent) – 39.4 Bcf.[33]

26. As noted, an additional category of Commission-jurisdictional transactions whose price is determined by the NG Futures Contract settlement price are those NG Futures Contracts that "go to delivery." During the months of interest, blanket certificate holders such as BP, Louis Dreyfus, UBS, Merrill Lynch, and ConocoPhillips each sold natural gas by taking NG Futures Contracts short through expiration in one or more of the months for a total of over 2,000 contracts for approximately 20 Bcf of physical gas that went to delivery.[34]

27. The natural gas sold as a result of the aforementioned processes represents substantial wholesale sales for resale in interstate commerce that are not first sales. Consequently, they are subject to the Commission's jurisdiction, and manipulation of the NG Futures Contract Settlement price will necessarily change the price in these transactions by corresponding amounts.

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[33] ICE, End of Day Reports – OTC (natural gas firm physical basis swaps), *available at* https://www.theice.com/eod_valuation.jhtml.

[34] NYMEX_00029 (NYMEX open interest, trade, and delivery data).

B. The Respondents

1. The Amaranth Entities

28. The Amaranth Entities collectively comprise what is commonly referred to as a "hedge fund." On paper, they consist of a complex array of interrelated LLCs, LLPs, and corporations,[35] organized for the purpose of pooling and investing funds of investors. They include "Amaranth Advisors L.L.C.," which is the "Advisor" to a number of "Funds," which in turn hold the capital contributed by investors, as discussed more fully *infra*.

29. The principal "Fund" is Amaranth LLC, a Cayman Islands company. Amaranth LLC is a multi-strategy trading fund advised by Amaranth Advisors L.L.C. and its affiliates. Amaranth LLC serves as a "master fund" in a "master-feeder" fund structure. Investors invest directly into three feeder funds (Amaranth International Limited, Amaranth Partners LLC, and Amaranth Capital Partners LLC), which invest substantially all of their capital in Amaranth LLC.[36] Amaranth LLC then invests its funds on a global basis in a host of trading vehicles. Amaranth LLC currently possesses substantial assets related to the operation of the Amaranth Entities.

30. Amaranth Group Inc. is a Delaware S corporation owned 100 percent by Amaranth LLC CEO Nicholas Maounis (Maounis). As of May 1, 2006, Amaranth Group Inc. owned one percent and served as general partner of Amaranth Management Limited Partnership, a Delaware holding entity, which entity in turn owned 78 percent of Amaranth Advisors L.L.C. Amaranth Group Inc. employed all the natural gas traders, including Brian Hunter, Matthew Donohoe, as well as the executives such as the President and Chief Investment Officer (CIO) Maounis, Chief Risk Officer (CRO) Robert Jones, and Chief Compliance Officer (CCO) Michael Carrieri. Amaranth Group Inc. is a service provider to the Amaranth Funds.

31. Amaranth International Limited is a Bermuda company. Amaranth International Limited serves as an off-shore "feeder fund" for non-United States and tax-exempt investors, in the "master-feeder" fund structure. Investors invest directly into Amaranth International Limited, which invests substantially all of its capital in Amaranth LLC.

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[35] AMARANTH_REG000049-61 (thirteen pages of Amaranth Organizational Charts).

[36] AALLC_REG0343320 (Amaranth LLC Financial Profile, January 2006).

32. Amaranth Partners LLC and Amaranth Capital Partners LLC are Delaware Limited Liability Companies. They both serve as a domestic "feeder fund" for United States taxable investors, in the "master-feeder" fund structure. Investors invest directly into these entities, which then invest substantially all of their capital in Amaranth LLC.

33. Amaranth Advisors (Calgary) ULC is a Nova Scotia, Canada company, registered with the Alberta Securities Commission, that Amaranth established as an energy advisor entity to allow Hunter and his team to move their trading operation from Greenwich, Connecticut to Calgary, Alberta (as discussed more fully *infra*). Hunter was the President, though most of the other officers were based in Greenwich, as were the other Amaranth employees assigned to perform support functions for the Calgary trading operation. Amaranth Advisors (Calgary) ULC is an indirect subsidiary of Amaranth Advisors L.L.C.

34. At the close of 2005, the Amaranth Entities employed over 600 people in Amaranth's Greenwich, Connecticut headquarters and seven other offices worldwide and controlled in excess of $8 billion in assets. In September 2006, Amaranth experienced significant losses from its natural gas positions that ultimately resulted in the pending and well-publicized dissolution of the firm.[37] Although Amaranth trading operations ceased in 2006, at present the assets of the Amaranth Entities exceed $600,000,000.[38]

2. The Traders

35. Brian Hunter, a Canadian citizen, was the head natural gas trader at Amaranth, stationed in a Calgary, Alberta office during the period in which the manipulative trading occurred. After holding various energy trading positions at TransCanada and Deutsche Bank, he joined Amaranth as an energy trader in 2004 in Greenwich and became a Portfolio Manager for Energy Trading in 2005. At about the time he joined Amaranth, it seems to have become generally known that he had left Deutsche Bank on unfavorable terms, including being taken off of the trading desk.[39] His troubles with Deutsche Bank

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[37] We note, in passing, that we have found no evidence indicating these fall 2006 losses were connected to Respondents' manipulative trading in the NG Futures Contract in early 2006 and also that staff's monitoring activities and investigation that resulted in this order began well before Amaranth's losses and the publicity, Congressional interest, and private litigation that ensued.

[38] Letter from Maounis to Amaranth Investors (Mar. 29, 2007).

[39] *See* Ann Davis, *How Giant Bets on Natural Gas Sank Brash Hedge-Fund Trader*, WALL ST. J., Sept. 19, 2006, at A1, *available at*

(continued)

eventually erupted publicly with the filing of a lawsuit against the firm blaming alleged performance problems on faulty Deutsche Bank systems and management. He left Amaranth sometime in late 2006 after the losses discussed above.

36. Matthew Donohoe was Hunter's "execution trader" at Amaranth. According to Donohoe, Hunter would "direct macro strategy, and [Donohoe] would implement it via trading."[40] As such, Donohoe would place the orders with NYMEX floor brokers or execute trades with counterparties on behalf of Hunter's trading book. He also left Amaranth after the fall 2006 losses.

3. The Trading Operation

37. Hunter was hired in 2004 by Maounis and Harpreet "Harry" Arora, a former Enron trader who had established Amaranth's energy and commodities trading desk. Hunter apparently grew to dislike reporting to Arora and to resent the way Hunter was compensated by Amaranth.[41] During the summer of 2005, Hunter threatened to leave Amaranth and went so far as to sign a contract with another firm.[42] In order to retain Hunter, Maounis allowed Hunter to manage a trading book separate from Arora's, focused on natural gas futures and derivatives.[43] Maounis also eventually promoted Hunter to Vice President reporting directly to Maounis, made Hunter "co-head" with Arora of commodities trading at Amaranth, and enhanced Hunter's "desk participation" (*i.e.*, his share of his trading desks profits) from 7.5 percent to 15 percent.[44] Hunter

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http://online.wsj.com/article_email/SB115861715980366723-lMyQjAxMDE2NTE4OTYxMTk3Wj.html; *see also* Maounis Dep. 54:9-55:16 (Nov. 20, 2006 late afternoon session); Hunter Dep. 52:9-53:2 (Nov. 16, 2006).

[40] Donohoe Dep. 17:21-18:2 (Mar. 14, 2007 morning session).

[41] Maounis Dep. 14:2-15:3 (Nov. 20, 2006 morning session).

[42] Hunter Dep. 21:5-22:3 (Nov. 16, 2006); Maounis Dep. 26:6-27:20 (Nov. 20, 2006 late afternoon session).

[43] Hunter Dep. 21:5-10, 24:9-22 (Nov. 16, 2006); Maounis Dep. 15:13-16 (Nov. 20, 2006 morning session).

[44] Maounis Dep. 28:4-7 (Nov. 20, 2006 late afternoon session); Arora Dep. 16:21-25 (Nov. 14, 2006 morning session), 33:18-20 (Nov. 14, 2006 afternoon session); A_CFTC000052; *see also* AMARANTH_REG003387-3402 (Letter from Amaranth to Hunter, dated June 1, 2005, summarizing his compensation package).

made roughly $1 billion for Amaranth in 2005, largely from trading around the periods when Hurricanes Katrina and Rita sent natural gas prices soaring, and received total compensation of roughly $100 million.[45] Subsequently, Amaranth allowed Hunter to increase the size of his natural gas positions (so that Amaranth allocated well over *half* of its risk capital to its energy book by the Summer of 2006).[46]

38. On August 23, 2005, shortly after Amaranth allowed Hunter to split his book from Arora's, Amaranth submitted an application to NYMEX for an exemption from NYMEX's position limits for trading in the NG Futures Contract and the Henry Hub Swap Contract (or NN Contract).[47] Specifically, Amaranth requested that its position limits be raised from 1,000 NG Futures Contract equivalents to 3,000 NG Futures Contract equivalents. In its request, Amaranth emphasized the high priority that it placed on risk management and that it had "assigned a risk manager to sit among its energy traders."[48] On September 16, 2005, NYMEX substantially granted Amaranth's exemption request.[49] This exemption, in part, positioned Hunter for the extensive trading in the settlement period that was to come.

39. In late 2005, Amaranth allowed Hunter to move his trading desk to Calgary, his hometown.[50] At first, Hunter was alone in Calgary, though eventually, four other Amaranth natural gas traders migrated there from Greenwich over the course of the Spring and Summer of 2006 (specifically, Matthew Donohoe, Matthew Calhoun, Shane Lee, and Brad Basarowich). Notably absent in Calgary were Amaranth senior

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[45] Maounis Dep. 27:21-24 (Nov. 20, 2006 late afternoon session); Ann Davis, *How Giant Bets on Natural Gas Sank Brash Hedge-Fund Trader*, WALL ST. J., Sept. 19, 2006, at A1, *available at* http://online.wsj.com/article_email/SB115861715980366723-lMyQjAxMDE2NTE4OTYxMTk3Wj.html.

[46] *See, e.g.*, AALLC_REG0767207-28, AALLC_REG0605202, AALLC_REG0550756, AALLC_REG0609346, AALLC_REG0611335 (series of documents Amaranth provided to investors outlining the percentage of risk capital allocated by strategy).

[47] A_CFTC000051-56.

[48] A_CFTC000052-53.

[49] A_CFTC000057.

[50] Maounis Dep. 15:7-17:11 (Nov. 20, 2006 morning session).

management, risk management, or compliance personnel,[51] contrary to the aforementioned representations Amaranth made to the NYMEX to obtain position limit exemptions.

40. By early 2006, Hunter was in his ascendancy within Amaranth and by March 2006, Arora had left Amaranth to work at another hedge fund. It is clear that Arora and Hunter had different views on trading, in particular, trading NG Futures during the settlement period. As do most participants in the NG Futures market, Arora sought to exit his position in the expiring "prompt-month" NG Futures as early as possible to avoid the risks of trading in the settlement.[52] Indeed, Amaranth did not trade large volumes of prompt-month contracts on the settlement day until after Hunter had been made a Co-Portfolio Manager for commodities trading. In the months leading up to Arora's departure, Arora expressed concerns to Amaranth CRO Jones and Maounis about Hunter's natural gas trading.[53] But, Hunter's energy trading book had been "an enormous source of profitability in 2005."[54] Moreover, energy trading accounted for 98 percent of Amaranth's 2005 profits, primarily from natural gas derivatives.[55] Thus it appears Amaranth senior management took a rather hands off approach to overseeing Hunter's trading operation (at least until May 2006). As we will discuss in more detail *infra*, Amaranth senior management's handling of the trading operation factors significantly into our overall view of this matter.

C. Trading in the March, April, and May 2006 NG Futures Contract

41. There are three NG Futures Contracts and their respective settlement days in 2006 – February 24, March 29, and April 26 – that are the subject of this order. The specific manipulative trading activity by Amaranth will be detailed further *infra*, but here it is

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[51] Maounis Dep. 17:22-21:5 (Nov. 20, 2006 morning session).

[52] Arora Dep. 19:20-20:9 (Nov. 14, 2006, afternoon session).

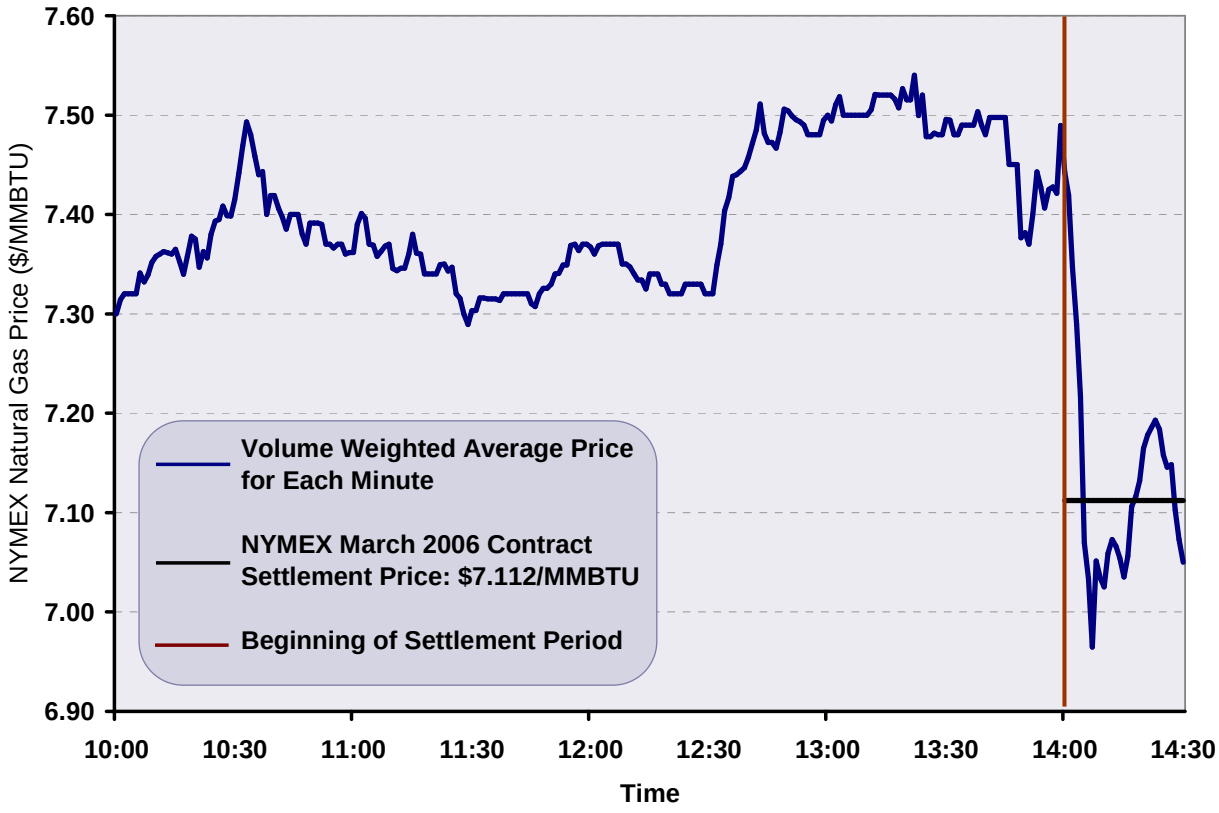
[53] Jones Dep. 38:15-41:4 (Nov. 13, 2006 morning session); Arora Dep. 25:4-29:4 (Nov. 14, 2006 morning session).

[54] Jones Dep. 71:17-20 (Nov. 13, 2006 morning session).

[55] STAFF OF S. PERMANENT SUBCOMM. ON INVESTIGATIONS, COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS, 110TH CONG., EXCESSIVE SPECULATION IN THE NATURAL GAS MARKET at 58 (2007) (quoting JPMorganChase, CP Leveraged Funds Due Diligence, Annual Review 2005, JPM-PS1 0007051).

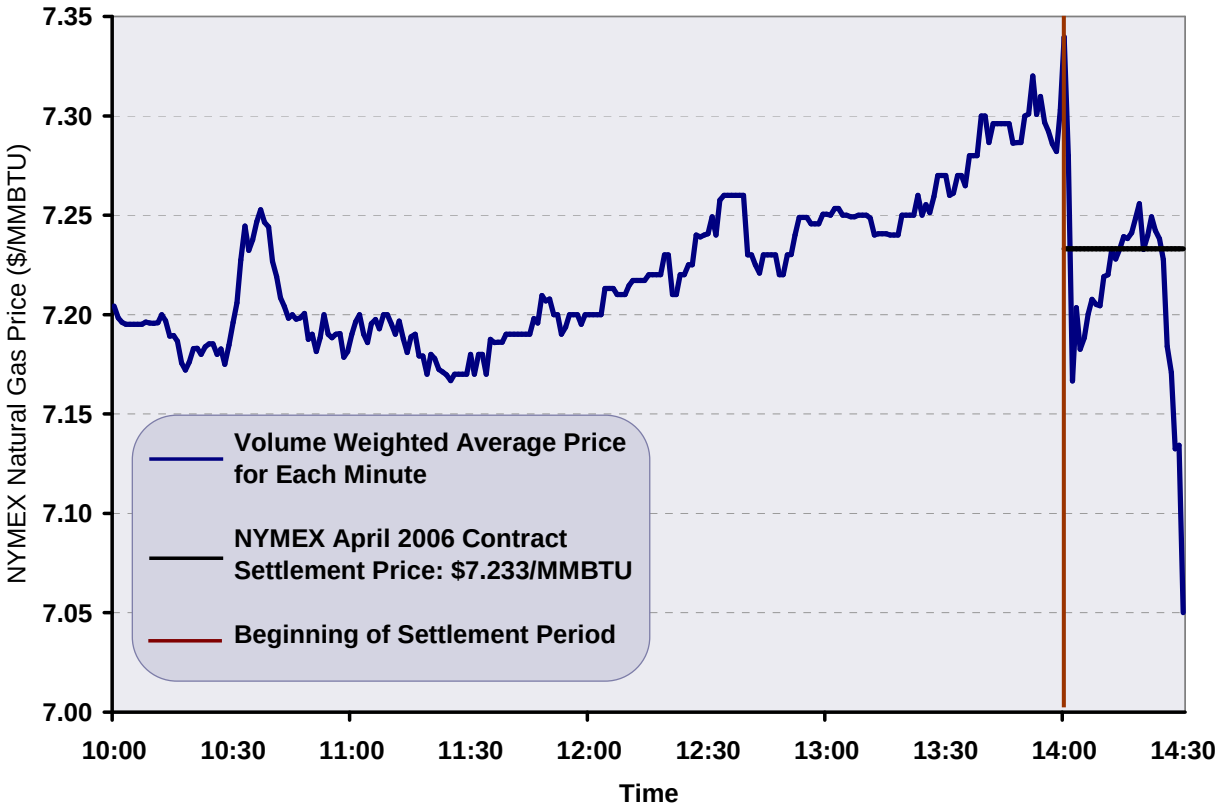
useful to review the price evolution of these contracts over the course of the termination days. The price points during the three trading days and other relevant information are presented in three figures below.

Figure 2: NYMEX Trading on March 2006 Contract Termination, February 24, 2006[56]



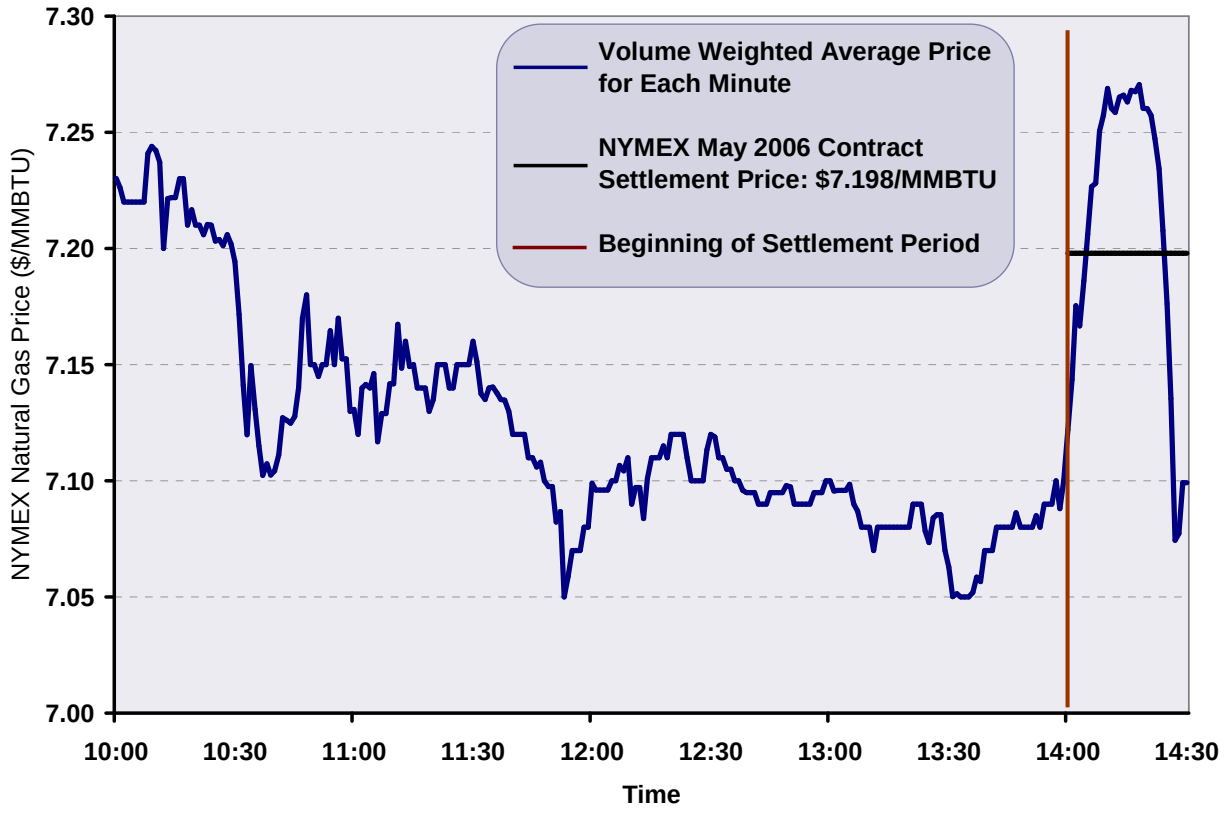
[56] NYMEX_00003 (NYMEX NG Futures Contract trade data).

Figure 3: NYMEX Trading on April 2006 Contract Termination, March 29, 2006[57]



[57] NYMEX_00004 (NYMEX NG Futures Contract trade data).

Figure 4: NYMEX Trading on May 2006 Contract Termination, April 26, 2006[58]



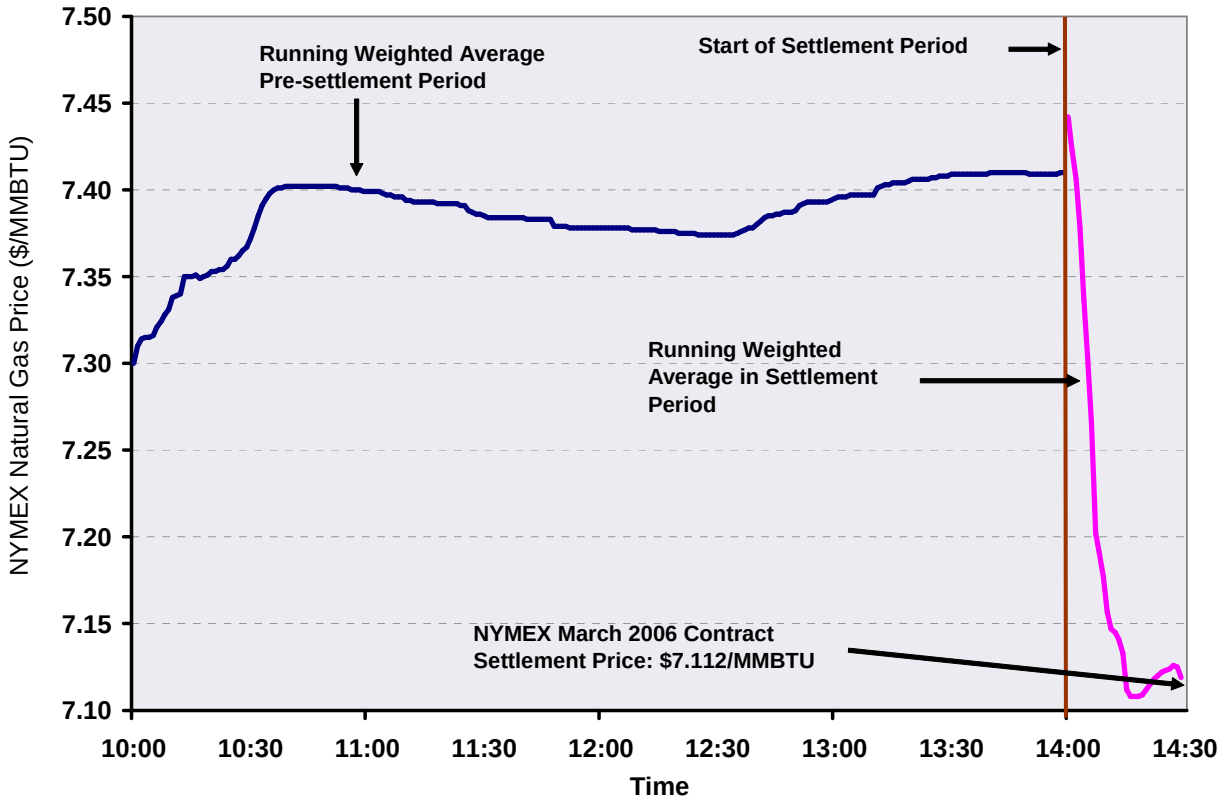
42. As these graphs show, there were significant alterations in the trajectory of the prices starting more or less at the start of the settlement period (although the direction and consistency of that change was not always the same). The coincidence of the shift in trajectory with the start of the settlement period and the departure of the settlement period prices from the rest-of-day trading is especially stark for the March contract, for which prices were in the range of $7.28 to $7.55 during the day (and closer to $7.50 in the hours prior to settlement), but then dropped dramatically in the first five minutes of the settlement. The contract settled at just over $7.11. In addition, the trading in the May contract seems anomalous: a sharp increase in prices at the start of the settlement period was followed by a marked decline.

43. An even more telling view of the activity is the running weighted average of prices which reveals how the volume of each sale combined with the price paid affected what would ultimately become the 30-minute weighted average. For example, Figure 5 below shows for the March 2006 contract (to the left of the vertical red line) the running

[58] NYMEX_00001 (NYMEX NG Futures Contract trade data).

weighted average of prices during the settlement day up to the settlement period. To the right of the red line is a running weighted average of sales in the settlement period. Had a settlement price been calculated based on selling up to the settlement period, the settlement price would have been about $7.42, but instead the contract settled at $7.112.

Figure 5: March Contract Volume-Weighted Average Price on February 24[59]



II. The Nature and Scope of the Violations

A. Commission Jurisdiction and the Anti-Manipulation Rule

44. The Commission's Anti-Manipulation Rule, section 1c.1 of the Commission's regulations, implements section 315 of EPAct 2005,[60] and prohibits:

[59] NYMEX_00003 (NYMEX NG Futures Contract trade data).

> any entity, directly or indirectly, in connection with the purchase or sale of natural gas . . . subject to the jurisdiction of the Commission . . . [from using] . . . any device, scheme, or artifice to defraud [or from engaging in] any act, practice, or course of business that operates or would operate as a fraud or deceit . . . on any person.[61]

In adopting this rule, we issued Order No. 670 and therein clarified the following elements of a manipulation claim: "an entity: (1) . . . engages in any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity; (2) with the requisite *scienter*; (3) in connection with the purchase or sale of natural gas . . . subject to the jurisdiction of the Commission."[62] This case presents the first exercise of this new anti-manipulation authority. Accordingly, commentary about some of its elements, as relevant to the facts of this case, is appropriate.

45. The Anti-Manipulation Rule is an intentionally broad proscription against all kinds of deception, manipulation, deceit and fraud.[63] In Order No. 670, we explained that fraud is defined generally to include "any action, transaction, or conspiracy for the purpose of impairing, obstructing or defeating a well-functioning market."[64] The body of precedent interpreting SEC Rule 10b-5 and section 10(b) of the Exchange Act upon which some of the elements of Rule 1c.1 were modeled makes plain that Rule 1c.1 covers manipulative conduct implemented, as here, by means other than material misrepresentations or omissions. The Supreme Court has defined market manipulation under Rule 10b-5 as conduct "designed to deceive or defraud investors by *controlling or artificially affecting* the price of securities"[65] or practices that "artificially affect market

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[60] EPAct 2005 § 315 (2005) (codified at 15 U.S.C. 717c-1).

[61] 18 C.F.R. § 1c.1 (2006).

[62] *Prohibition of Energy Market Manipulation*, Order No. 670, 71 Fed. Reg. 4244 (Jan. 26, 2006), FERC Stats. & Regs. ¶ 31,202, at P 49 (2006) (Order No. 670).

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

[64] *Id.* (citing *Dennis v. United States*, 384 U.S. 855, 861 (1966) (noting that fraud within the meaning of a statute need not be confined to the common law definition of fraud: any false statement, misrepresentation or deceit)).

[65] *Ernst & Ernst v. Hochfelder*, 425 U.S. 185, 199 (1976) (emphasis added).

activity."[66] In particular, practices such as attempting to or actually "marking the close," by which a manipulator seeks to alter normal market operations by sales targeted at the close of exchange trading, are prohibited.[67] Just as in the securities markets, energy market participants may be deceived or defrauded where one market participant trades with the intent to artificially affect the price of a physical or financial energy product and has the ability to do so, due to its relative size in the market or through explicit or tacit coordination with other traders. In the presence of such manipulative trading, the price is no longer set solely by the legitimate forces of supply and demand.

46. With respect to the "subject to the jurisdiction of the Commission" element, Section 1(b) of the NGA grants the Commission jurisdiction over "the sale in interstate commerce of natural gas for resale."[68] The NGPA[69] and the Wellhead Decontrol Act of 1989[70] exclude from the Commission's NGA jurisdiction all "first sales,"[71] which are all sales from the producer to the consumer, unless and until the gas is purchased by an interstate pipeline, intrastate pipeline, or local distribution company or an affiliate thereof.[72]

47. As noted *supra*, trading in the NG Futures Contract sets the settlement price for physical gas that "goes to delivery" and also determines the price for physical basis transactions which account for the vast majority of bid week transactions in the East, Upper Midwest and Gulf Coast market centers. These physical basis transactions during bid week, in turn, determine the monthly index prices for these locations and thereby the

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[66] *Santa Fe Indus., Inc. v. Green*, 430 U.S. 462, 476 (1977).

[67] *See In re Kocherhans*, No. 3-8611, 52 S.E.C. 528, 530, 1995 SEC LEXIS 3308, at *6 (Dec. 6, 1995) (defining manipulation through "marking the close" as "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"); *SEC v. Schiffer*, Fed. Sec. L. Rep. (CCH) P90,247, 1998 U.S. Dist. LEXIS 8579, at *26 & n.26 (Jun. 11, 1998) (finding *prima facie* showing of manipulation through marking the close).

[68] 15 U.S.C. § 717(b) (2000).

[69] 15 U.S.C. §§ 3301 *et seq.* (2000).

[70] Pub. L. No. 101-60, 103 Stat. 157 (1989).

[71] Commodity Exchange Act, 15 U.S.C. § 3431(a) (2000) (CEA).

[72] 15 U.S.C. § 3301(21)(A) (2000).

prices for the larger volume of sales based on the index price. A substantial proportion of the foregoing are Commission-jurisdictional sales for resale in interstate commerce and not first sales.

48. We do not have jurisdiction directly to regulate trading in the NG Futures Contract that does not affect our jurisdictional markets; that is the province of the Commodity Futures Trading Commission (CFTC). However, the law makes plain that the jurisdiction of the two agencies is to be complementary.[73] Where the two regulatory regimes overlap, courts have concluded that Congress intended that both should be given effect. For example, in *United States v. Reliant Energy*,[74] the court concluded that the Commission's exclusive jurisdiction under the FPA to regulate the transmission and sale at wholesale of electricity in interstate commerce did not preempt the CFTC's anti-manipulation jurisdiction to pursue criminal charges for manipulation of electricity prices during California's energy crisis in summer 2000.[75] Indeed, Congress directed in EPAct 2005 that the two Commissions execute a Memorandum of Understanding (MOU) to establish, among other things, provisions ensuring that investigations pertaining to markets within the respective jurisdiction of each agency are properly coordinated to minimize duplicative information requests, provide for adequate protection of proprietary trading information, and the like.[76] On October 12, 2005, the Commission and the CFTC

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[73] CEA, 7 U.S.C. § 2(a)(1)(A) (2000) (providing that CFTC "exclusive" jurisdiction is not to be read to interfere with separate jurisdiction granted to other federal agencies).

[74] 420 F. Supp. 2d 1043 (N.D. Cal. 2006); *see also SEC v. Hopper*, 2006 U.S. Dist LEXIS 17772, Fed. Sec. L. Rep. (CCH) P93,878 (S.D. Tex. 2006) (court rejected defendants' argument that SEC could not sanction energy trader for "round-trip" trading because such energy trading fell within exclusive jurisdiction of the Commission and the CFTC because the transactions were fraudulent and deceptive within the meaning of Rule 10b-5).

[75] *Reliant Energy*, 420 F. Supp. 2d at 1045 (*quoting United States v. Borden Co.*, 308 U.S. 188, 198 (1939) ("[I]t is a cardinal principle of construction that … when there are two acts upon the same subject, the rule is to give effect to both" and "Congressional intent behind one federal statute should not be thwarted by the application of another federal statute if it is possible to give effect to both laws.")).

[76] EPAct 2005 §§ 316, 1281 (codified at 15 U.S.C. §§ 717t-2(c)(1) (2005) and 16 U.S.C. §824t(c)(1) (2005)).

entered into the MOU[77] and pursuant to its provisions, as discussed more fully *infra*, the staffs of the two agencies have worked closely together for more than a year to coordinate discovery and the proceedings in this case. In short, CFTC has jurisdiction over trading on its regulated exchanges, we have jurisdiction over certain types of natural gas and electric markets, and where these markets are interconnected, both agencies have jurisdiction to prohibit market manipulation.

49. In Order No. 670, we interpreted the statutory phrase "any entity" (which is repeated in the Rule) to cover not just companies that have traditionally been subject to Commission jurisdiction (such as natural gas pipeline companies or public utilities), but also to include any company or firm, and natural persons as well[78] who, "intended to affect, or have acted recklessly to affect, a jurisdictional transaction."[79] Thus, while the Commission is not authorized to regulate all commodities trading behavior by any person or company, the Anti-Manipulation Rule prohibits manipulation of the physical and financial natural gas markets by any entity if the manipulative trading, whether intentionally or recklessly, also affects Commission-jurisdictional transactions, such as physical basis transactions and transactions based off indices calculated using physical basis transactions that are not "first sales."

50. With respect to the *scienter* requirement, in Order No. 670 we stated that for the Anti-Manipulation Rule to apply "the entity must have intended to affect, or have acted recklessly to affect, a jurisdictional transaction."[80] With respect to the "in connection with" requirement, Rule 1c.1 applies where there is a "nexus" between the manipulative conduct and the jurisdictional transaction.[81] Given that the application of these elements to any case will almost always be particularly fact-bound, we will discuss the contours of these elements in greater detail *infra*, in the context of the facts of this particular case.

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[77] *See* Memorandum of Understanding Between the Federal Energy Regulatory Commission (FERC) and the Commodity Futures Trading Commission (CFTC) Regarding Information Sharing and Treatment of Proprietary Trading and Other Information, executed October 12, 2005.

[78] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 2, 18.

[79] *Id.* at P 22.

[80] *Id.* (emphasis added).

[81] *See id.* at P 16.

51. The direction in which the manipulative conduct moves the price is immaterial to its legality. Courts routinely find that a downward manipulation violates section 10(b) of the Exchange Act and SEC Rule 10b-5.[82] In such cases, the conduct is manipulative because it "creat[es] a false impression of supply and demand . . . "[83] Courts have emphasized that defendants' "[f]ailure to disclose that market prices are being artificially depressed operates as a deceit on the market place and is an omission of a material fact."[84] Similarly, courts and the CFTC have condemned downward manipulations under the CEA.[85] The downward manipulation that occurred in *Avista* is of particular relevance to the instant case. There, the CFTC found that Avista Energy engaged in a manipulative scheme to drive down the settlement price of NYMEX electricity futures contracts to increase the value of its positions in over-the-counter (OTC) derivative contracts.[86] The academic literature takes a similar view, making no distinction between the harms resulting from upward or downward manipulations. These harms may include: deadweight losses due to distortions in consumption, production, storage, and transportation, as well as a reduction in hedging effectiveness, and a decline in market

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[82] *See, e.g., Internet Law Library, Inc. v. Southridge Capital Mgmt., LLC*, 223 F. Supp. 2d 474 (S.D.N.Y. 2002); *Compudyne Corp. v. Shane*, 453 F. Supp. 2d 807 (S.D.N.Y. 2006); *HealthExtras, Inc. v. SG Cowen Secs. Corp.*, 2004 U.S. Dist. LEXIS 698 (S.D.N.Y., Jan. 20, 2004), *United States v. Regan*, 937 F.2d 823 (2d Cir. 1991); *Nanopierce Tech. v. Southridge Capital Mgmt., LLC*, 2002 U.S. Dist. LEXIS 24,049 (S.D.N.Y. Oct. 10, 2002) (*Nanopierce*); *SEC v. Parnes*, 2001 U.S. Dist. LEXIS 21722 (S.D.N.Y. Dec. 26, 2001).

[83] *Nanopierce*, 2002 U.S. Dist. LEXIS 24,049, at *30.

[84] *See, e.g., United States v. Charnay*, 537 F.2d 341, 351 (9th Cir. 1976).

[85] *See, e.g., Strobl v. New York Mercantile Exch.*, 582 F. Supp. 770 (S.D.N.Y. 1984), *aff'd*, 768 F.2d 22 (2d Cir. 1984) (condemning under the Sherman Act and the Commodity Exchange Act a conspiracy by potato processors to artificially reduce the price of potato futures contracts); *In re Avista Energy, Inc.*, CFTC Docket No. 01-21, 2001 CFTC LEXIS 107 (Aug. 21, 2001) (*Avista*); *see also In re Anthony J. Diplacido*, Comm. Fut. L. Rep. (CCH) ¶ 29,866 (Sept. 14, 2004); *In re Taylor*, Comm. Fut. L. Rep. (CCH) ¶ 29,594 (Sept. 30, 2003).

[86] *Avista*, 2001 CFTC LEXIS 107, at *5-*6.

liquidity.[87] In sum, whenever manipulation results in markets that function other than on the basics of supply and demand, harm to the market participants results.

B. Staff's Investigation

52. Staff of the Office of Enforcement's Division of Energy Market Oversight (DEMO) includes advisors and analysts who have prior experience in the relevant markets, including actual open outcry trading in futures contract pits, as well as transactions in the wholesale physical natural gas markets. DEMO has routinely reviewed NG Futures Contract settlement prices in recent years. During trading for the last half hour of the May 2006 NG Futures Contract on April 26, 2006, DEMO staff observed in real time the sharp rise in price followed by the sharp decline during the last half-hour of trading, which resulted in a 10-cent increase in the settlement price for the May NG Futures Contract compared to where the contract had traded for most the day prior to termination. DEMO then reviewed and conducted a comprehensive comparative analysis of data on prior settlements going back several years. DEMO advised the Commission of its observations and referred the matter to staff of the Office of Enforcement's Division of Investigations (Investigations).

53. On May 2, 2006, Investigations requested from the CFTC, under the Commission's MOU with the CFTC (adopted pursuant to the requirements of EPAct 2005[88]), data necessary to identify the entities with the largest positions and trading volume in the May NG Futures Contract. The data showed that Amaranth was, by far, the largest seller in that termination. Subsequently, staff sought a broader data set and, after further analysis, on June 30, 2006, under the authority delegated to the Director of Enforcement or her designee,[89] the Director of Investigations initiated a non-public, preliminary investigation under Part 1b of the Commission's regulations into suspicious trading in NG Futures Contracts during settlement periods. Staff obtained further data from the NYMEX and the Amaranth Entities were identified as having engaged in seemingly suspicious trading in several contract months in early 2006. Over the ensuing months, Investigations obtained from the Respondents (as well as others) trade and position data, memoranda, reports, e-mails, IMs, and tape recorded telephone

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[87] Stephen Craig Pirrong, *Manipulation of Cash-Settled Futures Contracts*, 74 J. BUS. 221 (2001).

[88] EPAct 2005 § 316 (2005) (codified at 15 U.S.C. 717t-2(c)(1)).

[89] 18 C.F.R. § 375.314 (2006).

conversations, as well as the sworn testimony of over fifteen witnesses including all of the identified principals of the Amaranth Entities and each of the individual Respondents.

54. Staff also retained the services of an outside consulting expert Dr. Wincenti (Vince) Kaminski who conducted econometric analyses and a general review of the record which provided an independent review of staff's analysis and, ultimately, gave him a strong basis to conclude that manipulation occurred (see further discussion *infra*).[90] Based on his academic credentials and professional experience, Dr. Kaminski is a useful and credible source for an opinion on these matters. Dr. Kaminski worked with staff in the following areas: (1) general characterization of the relevant markets; (2) independent (blind) validation of staff's screening for and selection of investigation targets based on trading behavior; (3) review and characterization of the complete Amaranth portfolio, as to possible motives, conduct, intent and benefit from the suspect trading activity; (4) review of the evidence and testimony gathered, and (5) understanding the dynamics of trading in the NYMEX pit during the settlement period and how the behavior of one or a small group of traders can influence the rest of the market. He also conducted market share, concentration, multiple regression, and other econometric analyses in order to assess Amaranth's ability to impact, and estimate its actual impact on, the settlement price.

55. Staff's investigation was heavily coordinated with an investigation opened subsequently by the CFTC, the exclusive direct regulator of the NYMEX. As contemplated by the MOU, the staffs of the two agencies regularly coordinated their discovery efforts including participating jointly in depositions, sharing documentary evidence and conferring jointly with both inside and outside experts. Staff also coordinated with the Securities and Exchange Commission and other government agencies who have examined various regulatory aspects of Amaranth's activities. Coordination of this sort of case is, we believe, what Congress intended given the increasing interrelationship between the physical and financial energy markets. CFTC has exclusive jurisdiction over the operation of exchanges such as NYMEX, we have

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[90] Dr. Kaminski is a world renowned expert in the field of energy trading and applied mathematics and economics. His more recent publications include ENERGY MODELING: ADVANCES IN THE MANAGEMENT OF UNCERTAINTY (2005) and MANAGING ENERGY PRICE RISK: THE NEW CHALLENGES AND SOLUTIONS (2004). He is currently on the faculty of the business school at Rice University. Prior to that, he spent a career in various energy trading operations leading sophisticated quantitative analysis teams, and he recently was consulted by a Congressional committee as to the functioning of the natural gas markets and testified before the Senate Committee on Homeland Security and Governmental Affairs Permanent Subcommittee on Investigations on June 25, 2007.

exclusive jurisdiction over the physical wholesale gas markets described above, and both agencies have jurisdiction where, as here, the manipulations are connected to both markets.

56. Each of the Respondents, prior to the issuance of this Order, was notified of Staff's conclusions that form the basis for this Order and were given multiple opportunities to address those conclusions, in writing and otherwise.

C. Amaranth's Manipulation of the March, April, and May 2006 NG Futures Contracts on February 24, March 29, and April 26, 2006

57. We preliminarily find that Amaranth's head natural gas trader, Hunter, along with his execution trader, Donohoe, manipulated the settlement price of the NG Futures Contract for the March 2006, April 2006, and May 2006 contracts, by holding the Amaranth Entities' NG Futures Contract positions open until the beginning of the settlement periods on February 24, March 29, and April 26, 2006, then liquidating the positions by selling during the settlement period. The traders sought to influence the settlement price in order to benefit their positions in financially-settled swaps and options.

58. Before embarking on the discussion of Amaranth's trading, it is important to emphasize that the Commission does not consider high volume trading during the settlement period alone to be illegal or manipulative. Nor is it illegal to possess a large share of trading activity, to engage in speculation, or to wrongly predict the direction of markets. However, where a firm uses some combination of market power and trading activity, against economic interest in one sector, in order to benefit its position in a related financial instrument by artificially moving the price, the firm likely crosses the line into the realm of manipulation. Our preliminary conclusion here is based on all of the facts and circumstances of the case, including, as discussed more fully below: the fact that Amaranth traded in a manner that had the effect of driving down the NG Futures Contract settlement price; its aggregate natural gas position in the prompt month and prompt next; the manner and timing of the building of these positions in the days leading up to the settlement periods; and, contemporaneous documents in which Hunter and Donohoe outlined their plan to trade in the settlement period and the strong circumstantial evidence as to motive and intent that can be drawn from the sequence, pinpoint timing, and language of these documents.[91]

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[91] *See* Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 50 ("Fraud is a question of fact that is to be determined by all the circumstances of a case."); *Herman & MacLean v. Huddleston*, 459 U.S. 375, 391 n.30 (1983) ("The Court of Appeals also noted that the

(continued)

59. Nevertheless, high-volume trading during the settlement period is one factor (among many) that lead us to conclude that Amaranth had a manipulative intent for trading during the settlement periods identified above. Most traders normally try to avoid trading in large volumes during this period due to a number of risks. First, liquidity (*i.e.*, the amount of "open interest") is diminishing rapidly as most traders close out their positions well in advance of the termination day, and in particular the final thirty minutes. There are only a limited number of futures market participants that are also active in the physical markets and thus have the ability to make or take physical delivery. For a purely financial player (such as Amaranth), the risks of failing to close out the position are thus magnified, when compared with those faced by physical players.

60. Moreover, errors in monitoring the position in the prompt-month NG Futures Contract can result in unwanted physical delivery obligations, so traders want to be "out" well before the close to allow time for confirmation and reconciliation of trade capture systems so that any errors can be corrected if necessary before the close of trading.[92] The spread between bids and offers (*i.e.*, difference between the price sellers are asking for and the price that buyers are willing to pay at a given moment) as well as the spreads (*i.e.*, difference) between the prompt-month NG Futures Contract and a later-month NG Futures Contract or related instruments such as swaps or an "exchange of futures for

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proof of scienter required in fraud cases is often a matter of inference from circumstantial evidence. If anything, the difficulty of proving the defendant's state of mind supports a lower standard of proof. In any event, we have noted elsewhere that circumstantial evidence can be more than sufficient."); *see also TSC Indus., Inc. v. Northway, Inc.*, 426 U.S. 438, 463 & n. 24 (1976) (stating that a showing of market manipulation "may be by circumstantial as well as direct evidence, and the purchases themselves may be considered").

[92] In fact, in the Autumn of 2005 Amaranth made a significant error of this sort, which obligated it to take delivery of 100 to 200 contracts. After this costly error, Amaranth required all traders to transfer their position in the prompt-month NG Futures Contract to a single trader (Donohoe) during the days immediately preceding the settlement day, and Donohoe was responsible for exiting these positions. Hunter Dep. 51:15-52:10 (June 15, 2007); Donohoe Dep. 44:17-47:13 (Mar. 14, 2007 morning session); Arora Dep. 29:19-30:24 (Nov. 14, 2006 afternoon session); Carrieri Dep. 31:9-32:7 (May 15, 2007). As will be discussed below, this concentration of the prompt-month NG Futures Contract position in the hands of one trader on the termination day facilitated the manipulation.

swaps" (EFS) can be substantial and highly volatile during the settlement period. As Arora testified:

> [A]s you get closer expect more volatility and liquidity is usually more difficult. Or things get more volatile and the liquidity profiles change. You have lesser time. . . . As I mentioned to you, that is taking your contract too -- taking your position . . . which you do not intend to take or make delivery too close out there and be exposed to the last minute changes to spreads.[93]

61. Concentrated buying or selling in the settlement period could move prices up or down, respectively, either as a result of: (i) the sheer volume of contracts traded, conferring a transitory, but nevertheless meaningful "market power;" (ii) unilateral manipulative floor trading practices (*e.g.*, instructing or positioning the floor broker to signal to other floor brokers the plan so as to boost the market-moving effect); or (iii) explicit or tacit collusion (*e.g.*, with other traders who recognize the manipulator's intent and want to help him move the market with tag-along benefits to their own positions). In any case, for such a strategy to have a significant impact on the settlement price, which is a volume-weighted average, a would-be manipulator would have to account for, or propagate, a significant portion of the trading volume during some portion of the settlement period and the market would have to be fairly concentrated for some portion of the settlement period.

62. If trading in the NG Futures Contract were considered in isolation, the above manipulative strategy would typically be self-defeating. Concentrated selling of the NG Futures Contract to liquidate a long position (or buying to liquidate a short position) would normally reduce the value received, so that the overall payoff would always be less than that from a non-manipulative, price-taking strategy. However, such a strategy could be profitable to a trader who has set up its portfolio with *opposing* swap or physical positions that are much greater in scale (highly leveraged) than the NG Futures Contract position so as to benefit from these otherwise adverse movements in the NG Futures Contract. We preliminarily find that this is the calculation and strategy the Respondents employed.

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[93] Arora Dep. 44:16-19, 45:21-24 (Nov. 14, 2006 afternoon session); *see also* Lee Dep. 57:23-58:12 (Mar. 21, 2007 morning session) (discussing heightened volatility and other dangers of trading during close); Bolling Dep. 76:4-24 (June 29, 2007) (same).

1. Trading on February 24, 2006: *"Bit of An Experiment Mainly"*

63. The evidence of Amaranth's manipulation is clearest with respect to its trading on February 24, 2006, relating to the settlement of the March 2006 NG Futures Contract. Notably, this was the first time that the firm traded more than a few hundred contracts in any settlement day and the first time it traded a large number of contracts in the 30-minute settlement period. At roughly 10:00 a.m. on that day, Amaranth's Greenwich headquarters advised Hunter and Donohoe in an e-mail that they were short (1,729) futures contracts and to make sure that Amaranth is "flat by the end of the day today."[94] In other words, Greenwich gave the unremarkable reminder to Calgary that the position should go to zero so as to avoid taking delivery. But Hunter and Donohoe had plans to do much more before going "flat by the end of the day."

a. The Instant Messages

64. In this case, our inquiry is aided by the fact that Hunter and Donohoe were physically separated by half a continent in February 2006. Hunter was in Calgary, and Donohoe was in Greenwich. They chose to use instant messaging technology to communicate and effectuate their trading. Buried in the millions of bytes of instant message texts uncovered by staff are the clear signals of their manipulative scheme. In particular, in a series of instant messages from a 24-hour period in late February 2006 with other Amaranth traders (such as Donohoe and Calhoun) and traders at other firms (such as one Bart Glover of National Trading LLC with the IM handle "gloverb"), Hunter laid out his plan to manipulate the settlement price for the March NG Futures Contract by selling over 3,000 contracts "MoC" (market on close). "Market on Close" means to sell during the settlement period, or as one definition puts it "[a]n order to buy or sell at the end of the trading session at a price within the closing range of prices."[95]

65. The first hints of this strategy are contained in two instant message conversations between Hunter and Donohoe on February 23, the day before the termination day. First,

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[94] AALLC_REG0672597 (February 24, 2006 E-mail from Michael Malach to Hunter and Donohoe, among others).

[95] CFTC Glossary, http://www.cftc.gov/opa/glossary/opaglossary_m.htm; *see also* definition used by Man Financial, one of the leading brokers at NYMEX, http://www.mandirect.com/Trading-Tools/order_entry.cfm (stating that a "Market on Close" order is "an instruction to fill the order, at market, but only in the closing range").

at 2:58 p.m., Hunter tells Donohoe "ok – end of day tomorrow still stands."[96] The meaning of this cryptic comment is apparently clarified at 3:39 p.m., when Hunter instructs Donohoe to "make sure we have lots of futures to sell MoC tomorrow."[97] Hunter thus instructed Donohoe to buy a large number of March NG Futures Contracts before the close the next day so that Amaranth would have "lots" of NG Futures Contracts to sell MoC, that is, during the close. At the time Hunter made the statement, Amaranth had a short position of (1,729) March NG Futures Contracts.[98] Therefore, Amaranth would have had to buy only 1,729 March NG Futures Contracts if its objective was merely to go "flat by the end of the day today." But, if it wanted to have "lots" of futures *to sell MoC*, it would have to buy *additional* contracts to build a long position. That is what it did. In fact, Amaranth bought in excess of 4,800 March NG Futures Contracts the next day, taking its position from short, past "flat" and then to long sometime around noon.

66. In a series of instant message exchanges during the mid-day of February 24, Donohoe gave Hunter periodic updates on his position in the March NG Futures Contract, and Hunter provided further detailed instructions on the implementation of their strategy. For example, in an instant message conversation beginning at 11:02 a.m. EST, Donohoe informed Hunter that he had already liquidated the short position of (1,729) March NG Futures Contracts and was by that point up to a long position of 2,111. Hunter then instructed Donohoe to further build his position to be long at least 3,000 contracts.[99] By 12:22 p.m., Donohoe had already achieved this goal, reaching a position

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[96] AALLC_REG0684033. Given that the Hunter and Donohoe were in Calgary and Greenwich, respectively, and that this is the first mention of trading for the "end of the day tomorrow" in the instant messages, it appears that Hunter first laid out his strategy to Donohoe in a previous telephone conversation. Amaranth claims that it did not record any of its telephone lines, so we do not have any record of any telephone conversations laying out their plan.

[97] AALLC_REG0684056 (February 23, 2006 Instant Message between Hunter and Donohoe).

[98] AMARANTH_REG091722_pos0223.xls (Amaranth end of day position report for February 23, 2006); AALLC_REG0672597 (February 24, 2006 E-mail from Michael Malach to Hunter and Donohoe, among others).

[99] AALLC_REG0704803.

Donohoe: 11:02:52 i'm long 2111 fut
Hunter: 11:03:20 already?

(continued)

of long "3111 fut," *i.e.*, March NG Futures Contracts. Donohoe then asked whether he should get more but Hunter told Donohoe that "that should be enough."[100] Donohoe agreed not to trade any more March NG Futures Contracts until the settlement period, so that he could carry out Hunter's previous instruction that all of these contracts were to be sold in the close.[101]

67. In the meantime, Hunter let Donohoe know he was "telling vinnie."[102] This is a reference to Hunter contacting Amaranth's primary NYMEX floor brokerage firm, ALX Energy, Inc. (ALX), and specifically Vincent Rufa, one of ALX's phone clerks.[103] Under all the circumstances, a fair inference is that Hunter called Rufa in order to advise him of Amaranth's intentions so that when it came time to execute the trades, the broker would have considered, in advance, how to execute the order so as to maximize the intended effect.[104] We note that because Rufa had a strong professional and personal relationship

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Donohoe: 11:03:43 vitol sold 2000
Hunter: 11:04:12 maybe get to 3000
Donohoe: 11:04:17 I can easily get 2000 or mor

[100] AALLC_REG0684197.

[101] *Id.*

Donohoe: 12:22:03 3111 fut
Hunter: 12:26:17 that should be enough
Hunter: 12:26:23 getting them easy?
Donohoe: 12:26:35 yeah … last 1500 on h/j roll
Donohoe: 12:26:42 vitol gave me 2000
Hunter : 12:32:20 telling Vinnie
Donohoe: 12:32:52 ok no more futures will be traded

[102] *Id.*

[103] Rufa also traded for his own account and acted as a broker during the relevant time period. Rufa Dep. 19:19-23, 21:23-22:4 (Mar. 7, 2007).

[104] This inference is further justified by Rufa's testimony indicating that he owed a certain loyalty to Amaranth – that he communicated conditions in the pit directly to either Hunter or Donohoe, and that he did so all day long. Rufa Dep. 28:10-29:14, 51:2-12 (Mar. 7, 2007). Said Rufa, "I would make sure the clients got information I thought they needed." Rufa Dep. 22:5-7. Rufa has also passed on critical market intelligence to market participants in the past, such as the identity of a buyer or seller. Hunter Dep. at 169:3-21 (June 15, 2007).

with Amaranth and its traders, and because of subsequent events, as discussed more fully *infra*, it is reasonable to conclude that Amaranth armed Rufa with the knowledge that Amaranth intended to drive down prices in the close.[105]

68. It appears that ALX's resulting selling activity, in one manner or another, disseminated to the pit that Amaranth would be a large seller. During the settlement period, an ALX floor broker, James DeLucia, known in the pit as Jim X, traded on Amaranth's behalf. Another trader, Eric T.Bolling stood only five feet away from DeLucia in the pit.[106] Of the trades that DeLucia executed on behalf of Amaranth during the close, approximately 26 percent went to Bolling, more than any other trader transacted with Amaranth.[107] Bolling was thus an eyewitness to the Amaranth selling and recalled in vivid detail the events of that settlement. He testified that the March contract close on February 24 involved a "dramatic sell off . . . [that was] probably more emphatic [than a typical close because of] the speed at which it dropped, 50 cents."[108]

69. Bolling was able to trade profitably in rapid fire fashion because of what Bolling called "massive"[109] selling by DeLucia, suggesting that, at the very least, DeLucia did not achieve best execution. Bolling testified that it was clear to him that DeLucia had a lot of size to move, and he was more concerned with executing trades than with obtaining good prices. Bolling further testified that the pit, himself included, knew that Amaranth traded through ALX.[110] Armed with the right information a floor broker can use pit behavior, some of which is virtually undetectable, to reveal – even unwittingly – to other floor brokers how he intends to trade.[111] Traders watch the pit to see how it is reacting and moving; as Bolling testified, "That is the way a pit trader should trade . . . . You look for

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[105] Amaranth was ALX's largest customer, and Rufa traveled to Calgary and socialized with Amaranth employees on multiple occasions. Rufa Dep. 42:23-47:2, 48:23-49:3 (Mar. 7, 2007).

[106] DeLucia Dep. 96:4-97:11 (May 17, 2007).

[107] NYMEX_00003 (NYMEX NG Futures Contract trade data).

[108] Bolling Dep. 168:3-5, 169:13-16 (June 29, 2007).

[109] *Id.* at 212:12-17.

[110] *Id.* at 54:22-23.

[111] There are many ways a broker can communicate whether he is a big buyer or seller. For example, a floor trader can make trades with an apparent indifference to price.

volume, you look for flow, you want to see activity, you want to see traders or orders that have big volume or they are aggressive"[112] and "you have to adjust your trading according to the direction of the market, the direction of the order flow"[113] and "[t]hat is part of the nuance of being a pit trader is to be able to read people, read where they are, not just order brokers, but locals, too."[114] Moreover, a single trader can move the market by "continually adding to the trade. In other words, when you get filled, do it again, do it again, do it again, and there are orders like that. There are people who just come back and come back and come back."[115] As discussed more fully *infra*, Bolling confirmed this is what Amaranth's broker did and that the selling indeed moved the market.

70. Additional evidence of *Amaranth's* intent, further paints the picture of a plan to drive down the settlement price. As the Amaranth traders waited for the settlement, Hunter traded messages with Matthew Calhoun, another Amaranth natural gas trader, in which Hunter boasts he "just need[s] ***H to get smashed on settle*** … then day is done."[116] The letter "H" is the market nomenclature for the March NG Futures Contract. In another message at 1:31 p.m., Hunter outlined his plans to Glover:

> Hunter: We have 4000 to sell MoC . . . ***shhhh***
> Glover: unless you are huge bearish . . . why the f would yo [sic] do that
> Hunter: ***bit of an expiriment [sic] mainly***
> Glover: what the f . .. ***that is huge***[117]

71. Donohoe carried out Hunter's instructions by placing a series of six orders to ALX from 2:00 p.m. to 2:28 p.m., in which he directs ALX to sell a total of 3,111 NG Futures Contracts.[118] Technically, Donohoe did not place an "MoC" order, but instead placed a

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[112] Bolling Dep. 48:16-25 (June 29, 2007).

[113] *Id.* at 80:7-9.

[114] *Id.* at 90:20-22.

[115] *Id.* at 128:11-14.

[116] AALLC_REG0684186 (emphasis added).

[117] AALLC_REG0684227 (emphasis added). In an earlier instant message, Hunter tells gloverb at 11:13 a.m. that "its us and john [Arnold of rival trading house Centaurus]… we are long …futures … for MoC … decent size." AALLC_REG0684152.

[118] ALX006-011. Each of the first five was for 500 March NG Futures Contracts, with the last at 2:28 p.m. for 611 March NG Futures Contracts.

series of "Market Orders" in the close.[119] An MoC order would have directed the broker to sell the contract in the closing range but would have left the timing of the sales to the discretion of the broker in order to get the best price, so long as the sales occurred in the closing range. A "market order" is an order to buy or sell a futures contract immediately at whatever price is obtainable at the time it is entered in the pit.[120] On all the floor trading tickets created in the pit by ALX when Amaranth phoned in its orders, the price column is left blank, indicating that Hunter was indifferent to the price received for these contracts, as long as they sold.[121] Importantly, the first trade tickets, time stamped at 1:59 p.m., indicate an order to sell 500 contracts, which represents by far the largest sell in the opening minutes of the close. And, the notes on the ticket pertaining to executions in the pit known as "fills" show relatively higher priced transactions occurring rapidly in small lot sizes accompanied by the rapid drop in prevailing prices as seen in Figure 2 above. Once the prevailing market price dropped from around $7.40 at 2:00 p.m. to about $7.10 sometime around 2:08 p.m., Amaranth fills show rapid and larger size fills at the lower prices. This activity strongly supports the profile of a large seller signaling to the pit the intention to be a large seller and inducing buyers to hold off on aggressive bidding, waiting instead for progressively lower offers (and thus lower prices for their buys).

72. Bolling specifically recalled,

> Jim X [ALX's DeLucia] was a big seller in March [the March contract] . . . . I mean, just hitting any substantial bid that was there, hitting a bid, if you showed him a bid he would hit it. He clearly had a lot of contracts to sell . . . . he is hitting me every time I open my mouth, and I am the biggest local in the ring.[122]

Nor was Bolling the only trader reacting to ALX:

> A: [A]ll eyes were on Jim X because he had a lot to sell. He had a lot of contracts to sell, and if you put a big bid up he would hit it.
>
> Q: Aside from you, who else was watching Jim X?

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[119] *Id.*

[120] CFTC Glossary, http://www.cftc.gov/opa/glossary/opaglossary_m.htm.

[121] ALX006-011.

[122] Bolling Dep. 172:18-22, 175:22-23 (June 29, 2007).

A: I think the whole pit was . . . . [H]e was willing to hit any bid that was . . . any size bid in the ring, boom, sold, boom."[123]

* * *

Q . . . . Did it seem to you that he was more interested in price or volume?

A: Volume.[124]

* * *

A: Remember, it is a close and most of the smaller market makers are going to back off because they don't want to get hit by a freight train . . . .

Q: You would describe Jim X's selling as a freight train?

A: On a close, on a very active close in March, with March-April being such an active spread, I would say that if he kept hitting 100's that would be a freight train, yes.

Q: Did he keep hitting 100's?

A: He hit me on it a bunch of times.[125]

* * *

He was a massive seller.[126]

73. In response to Amaranth's "freight train" of a broker, the pit reacted to move the market lower. Bolling further testified:

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[123] *Id.* at 178:18-179:6.

[124] *Id.* at 180:25-181:2.

[125] *Id.* at 209:19-210:6.

[126] *Id.* at 212:17.

> Q: And in the first instance you would expect that the price would go lower if he were truly bailing?
>
> A: Yes.
>
> Q: And would everyone else who is prepared to feed on the bad –
>
> A: Now you are barking up the right tree.
>
> . . .
>
> Q: -- prepared to feed on the fallen corpse, would they run ahead of this to help the market go lower?
>
> A: Absolutely.[127]
>
> * * *
>
> A: If all of a sudden he is selling a big piece of March on the close, for me as a trader, the flag goes up and says, hey, maybe this is the beginning of him saying, no mas, and he is throwing the position in, at which point all of his upstairs buddies, who are either on the other side of the trade or looking to make a buck off it, guarantee started selling. I mean that is what happened.[128]

74. Bolling was a prominent force in the pit that other traders followed or watched for direction.[129] By arming Bolling and other significant locals with knowledge and the opportunity to trade Amaranth contracts virtually risk free, DeLucia further magnified the effect of Amaranth's trading activity. Such a signal would have allowed the other floor brokers to position themselves to respond to the selling broker in such a way that could have benefited them (for their own or client accounts) as well as maximize the intended market effect of the selling broker's trades.

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[127] *Id.* at 193:1-11.

[128] *Id.* at 193:24-194:5.

[129] DeLucia Dep. 77:13-78:13 (May 17, 2007); Bolling Dep. 90:23-91:4 (June 29, 2007).

75. As the settlement period progressed, at 2:15 p.m. Hunter and Donohoe began engaging in a bit of celebratory instant messaging:

> Hunter: today came together quite nicely . . . We'll hit the rest near the end of this

Around 2:30 p.m., as the settlement period ended:

> Donohoe: h [March NG Futures Contract] will settle lower . . . and h/j [March April spread] wider . . .nice . . .
> Hunter: I am flexing here
> Donohoe: looking preety bang on . . . . lol . . . rrrrrrrrrrrrrrrrrr
> Hunter: hahahahaha
> Donohoe: 2nd best … sept/oct last year still the best[130]

This last reference indicates Donohoe's expectation that the day would be their second best ever – the best still being the hurricane-related trading from the fall of 2005. Unlike in Autumn 2005, however, there were no major disruptions to the supply and demand sides of the physical gas markets – as occurred in the wake of Hurricanes Katrina and Rita – that would explain the trading profits that Amaranth earned on February 24.

b. Trade and Position Data

76. Forensic evaluation of Amaranth's trade data confirms the intentions and conduct suggested by the IMs. Amaranth entered the day with a short position of (1,729) March NG Futures Contracts.[131] Amaranth bought between 4,800 and 4,900 contracts prior to the close on February 24. Amaranth began selling at roughly 2:00 p.m., which is the beginning of the settlement period, and sold 3,111 contracts in the settlement period. Amaranth was the largest seller in the close and its selling represented at times between forty and fifty percent of all sales in the opening minutes of the close. The following Figure 6 shows the trades throughout the day, with the blue bars representing buys (to a long position) and the red bars representing sales in each minute (all of which occurred in the settlement period). The second graph in Figure 7 illustrates Amaranth's net positions. The reversal of position before the settlement, the size of the long position, and the

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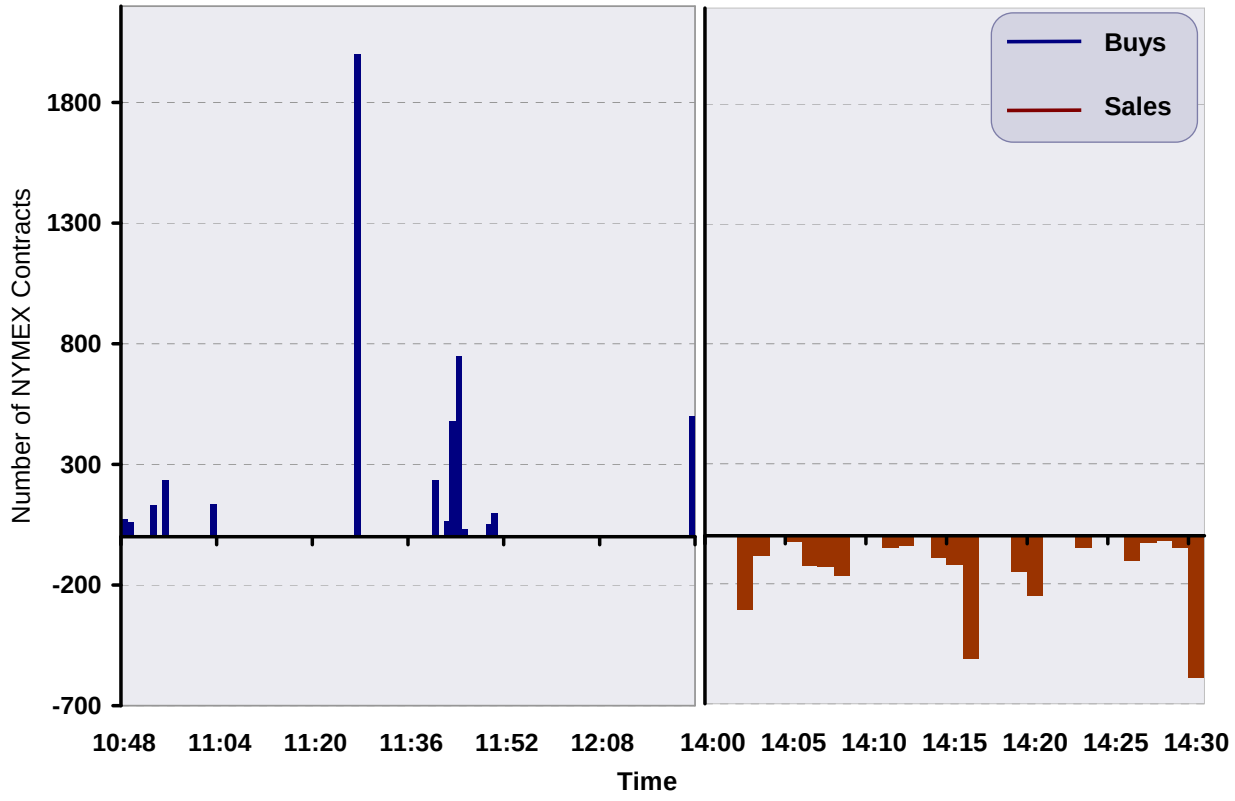
[130] AALLC_REG0704932.

[131] AMARANTH_REG091722_pos0223.xls (Amaranth end of day position report for February 23, 2006); AALLC_REG0672597 (February 24, 2006 E-mail from Michael Malach to Hunter and Donohoe, among others).

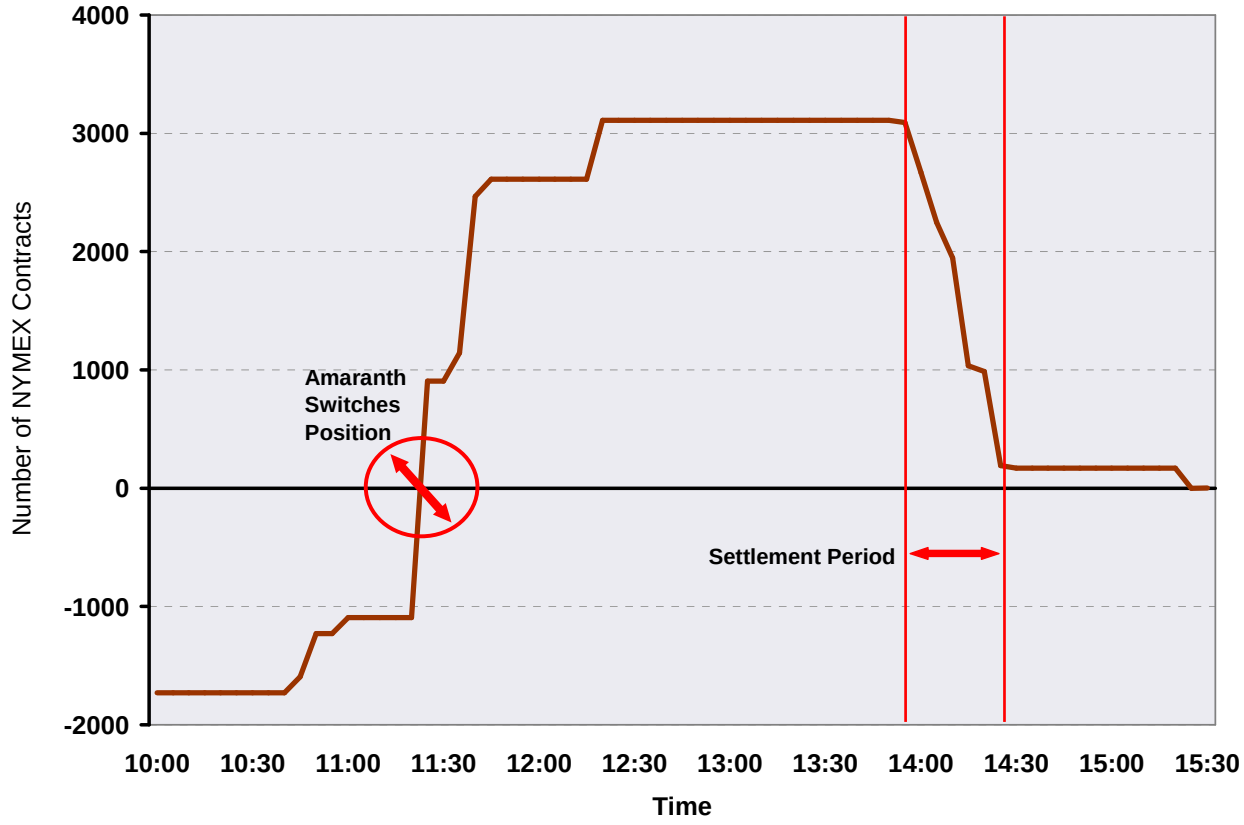
timing of the liquidation by sales immediately after the start of the settlement period, all evidence an intent to take the position substantially long before going flat in the settlement period.

Figure 6: February 24th Amaranth Trading Before and in the Close For the March 2006 Contract[132]



[132] NYMEX_00003 (NYMEX NG Futures Contract trade data).

Figure 7: Amaranth March 2006 Termination Day February 24, 2006: Intraday NYMEX Natural Gas Position[133]



77. Amaranth had ample motive to drive down the NG Futures settlement price. Amaranth's position in the derivative March swaps was short (13,167.5) futures contract equivalents.[134] The value of this position increased proportionate to the decline in the March NG Futures Contract settlement price. In addition, Amaranth maintained short positions in the "prompt-next" or April NG Futures Contract. The prompt-next month

[133] NYMEX_00003 (NYMEX NG Futures Contract trade data).

[134] In reference to financially-settled swaps, the terms "contracts" and "futures contract equivalents" will be used interchangeably here, and refer to the size of the NG Futures Contract, which is 10,000 MMBtus/month. However, the various types of natural gas swap contracts (*e.g.*, Clearport or NN Contract, ICE swaps, bilateral swaps, *etc*.) vary in size, so the positions in these various instruments have all been converted into "futures contract equivalents."

NG Futures Contract trades in the same pit, at the same time, as the prompt-month (expiring) contract. Because the two contracts are similar as to their fundamentals, the trading in the prompt-month contract tends to affect the trading in the prompt-next NG Futures Contract as well. So, manipulation of the prompt-month NG Futures Contract sales has an effect on the sales of the prompt-next contract. At the end of the settlement day, the prompt-next NG Futures Contract is also assigned a "settlement price," as are all NG Futures contracts for subsequent months and derivative contracts such as swaps and options. Each settlement price is based on only the last two minutes of sales, and is not a final settlement price, because those NG Futures Contracts have not yet terminated.[135] These settlement prices establish the relative value of each contract versus the prompt month contract, and are the basis for determining marked-to-market values for these instruments.

78. Accordingly, if the artificial lowering of the prompt-month NG Futures Contract settlement price was effectuated significantly through sales in those final two minutes, or resulted in artificially lower prices in those last two minutes (because of the momentum of trading in the first twenty-eight minutes), the settlement price of the prompt-next month would also be artificially lowered. Consequently, any short position in the prompt-next contract would also be benefited. On February 24, Amaranth held a short position of (16,613.25) contracts in the prompt-next month, *i.e.*, the April NG Futures Contracts and swaps. Thus, trading on February 24 benefited Amaranth's positions in its net short position (*i.e.*, including both the NG Futures Contract and swaps) in both the March and April contract months.

79. Dr. Kaminski concludes that Amaranth manipulated the market for the March contract (and in the other months addressed in this order). In addition to reviewing the overall record, from an econometric perspective, he demonstrated a very high degree of correlation between large trader transactions in the settlement period and price movements. For example, he evaluated share and concentration using standard techniques such as the Herfindahl-Hirschman Index (HHI) along with price trends in order to correlate concentration with price effects. He showed that relatively higher HHIs on the buy side of the market correlate very strongly (*i.e.*, have a high r-squared) to a statistically significant degree with upward movement in prices and a similarly high correlation between relatively higher levels of concentration HHIs on the sell side and

[135] On days other than a settlement day, every NG Futures Contract, including the prompt-month contract, is assigned a two-minute settlement price at the end of the trading day.

downward movement in prices.[136] In other words, large traders have a statistically significant ability to artificially move the market price during the settlement period. In addition, he analyzed the degree of persistence of effect on the market Amaranth's large selling in real time during and over the course of the thirty minutes settlement period using, for example, auto-regressive integrated moving average techniques in order to assess the degree of impact on the resulting settlement price.[137]

80. Amaranth profited by roughly $27,300,000 (at least) from its manipulation of the March NG Futures Contract settlement price.[138] This figure is necessarily an estimate. Given the complexity of the market involved, the importance of the psychology of the trading pit, which is not susceptible to precise modeling, and limits to the precision of the available data (as to time stamps, for example) it is impossible to determine precisely what the settlement price would have been absent Amaranth's manipulative selling. Nor is there one single method for estimating such impact. But reasonable estimates are derivable. Dr. Kaminski has evaluated several methods for estimating the price impact of Amaranth's trading, including varying degrees of conservatism. We require nothing more for our determination of such matters as market impact and disgorgement, once wrongdoing is determined.

81. Amaranth's net short position in the March NG Futures Contract and March swaps of (10,056.5) contracts would have benefited by slightly more than $1 million per penny decrease in the settlement price of the March NG Futures Contract. Prior to the beginning of the settlement period on February 24, the NG Futures Contract had been

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[136] Here the typical relationships between HHIs and prices are reversed because of the need for most parties to exit in order to avoid the delivery obligation. Normally concentration and share in a buyer side would raise concerns that the buyer would be able to command lower prices; here however the combined effect of the delivery risk and the fact that some participants can take delivery creates the proverbial "musical chairs" phenomenon.

[137] For reasons discussed more fully below, he advises that this technique is probably not appropriate for evaluation of the May contract due to the unique profile of Amaranth's selling in that settlement.

[138] Amaranth's profits from its manipulation are calculated based on its net position in the NG Futures Contract and swaps. Therefore, any potential losses that Amaranth may have suffered on its NG Futures Contract are already accounted for, as they would be offset by the profits on an equal volume of swaps (*i.e.*, an equal number of futures contract equivalents of swaps).

trading at around $7.40, but the prices declined sharply during the settlement period and the March NG Futures Contract settled at $7.112.[139] Dr. Kaminski estimates that Amaranth's manipulation was directly responsible for a portion of that drop. The most conservative estimate is $.09, a mid-range is $.12 and the least conservative (but still reasonable) estimate is $.29. Thus, as to the March NG Futures Contract and March swaps, Amaranth's estimated gain from its manipulation is the product of the $1 million per penny change and between $.09 and $.29, for a realized gain of between $9,000,000 and $29,000,000.[140] In addition, Amaranth had a net short position of (16,613.25) April NG Futures Contract and swaps, which would have benefited by roughly $1.661 million per penny decrease in the April NG Futures Contract settlement price for the day. Amaranth's trading on February 24 caused the April NG Futures Contract to settle an estimated between $.11 and $.36 lower for the day, resulting in a marked-to-market gain between $18,300,000 and $60,000,000.

82. According to Amaranth's contemporaneous records, the total one-day net trading profits for Hunter's group ("Calgary Energy") on February 24 were $45,350,447.[141]

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[139] Our analysis is based on two sets of NYMEX data: (1) the complete set of trades recorded by the NYMEX on the settlement day; and (2) the set of trades that NYMEX used to calculate the settlement price. There are some differences between these sets based on NYMEX administrative practices. For example, some trades whose time-stamps in the first data set indicate that they occurred during the settlement period (*i.e.*, that are time-stamped from 2:00 p.m. to 2:30 p.m.) were not included in the settlement calculation because of various defects in the trades subsequently determined by NYMEX in arriving at the settlement price and reflected in the "Validation Codes" in the second set of data. Other trades appear to have been modified between the recording and inclusion in the settlement, in particular, where NYMEX corrected apparently erroneous time stamps. Finally, a few trades used to calculate the settlement price are not in the set of trades that occurred on the settlement day. These issues affect a small percentage of the total trades, and the settlement prices calculated using the two sets of data are nearly identical (*i.e.*, within a fraction of a penny). The data differences do not change our fundamental analysis or conclusions.

[140] In addition to these amounts, Amaranth may have had marked-to-market gains for other contract months or in other prompt-month or later instruments such as basis swaps or options, which are not included here.

[141] AALLC_REG0692140-45 (Amaranth E-mail of February 27, 2006). According to this e-mail, Hunter's books had daily profits on February 24 of roughly $15 million each in his "SKEW2" and "WINTERVOLSPREAD2" strategies, which included large positions in the March NG Futures Contract and March swaps. Moreover, the cover

(continued)

Thus, these gains were offset in the daily Profit and Loss by losses elsewhere in this complicated book.[142] However, the greatest gains show up in the portions of the book where the short March and April swap positions were held. More generally, the gains on the day are more than three times the average daily gains the book had enjoyed up to that point, year-to-date.

83. For a variety of reasons, it appears that a proportion of trades that are originally reported to have occurred in the settlement periods were routinely not actually used by NYMEX in calculating the settlement price. Indeed a number of Amaranth's trades actually ended up not being included in NYMEX's calculation of the March contract settlement price, based on NYMEX's administrative practices pertaining to said calculation.[143] This fact does not detract from our finding of manipulation primarily

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e-mail to which this P&L statement was attached states that the Calgary Energy group gained on *the week* $198 million "on short Mar-Jul 06 positions as prices *decreased* by an average of $0.05," (emphasis added) though it is possible that this weekly amount includes gains from previous days. Analysis of the raw data provided by Amaranth, which includes only trades related to natural gas, shows daily profits for February 24 of about $49 million, with about $17 million in the SKEW2 strategy and $10 million in the WINTERVOLSPREAD2 strategy (with the difference from overall P&L's likely attributable to non-gas related portions of these strategies). AMARANTH_REG091722_pos0223.xls, AMARANTH_REG091723_pos0224.xls (Amaranth end of day position reports for February 23 and 24, 2006).

[142] For example, Amaranth's Profit and Loss (P&L) statement reflects the full effect of the drop in price during the settlement period, not just the portion of the volume-weighted average price that Amaranth's trades constituted, as well as profits and losses from trades that were unrelated to the manipulation. However, the downward movement of subsequent contract months was generally beneficial to Amaranth's book because it had a net short position in the March 2006 through November 2006 NG Futures Contracts. Moreover, the impact of changes in the prompt-month contract on other contract months generally decreases as the time to the contract's maturity increases. For example, a decrease in the price March 2006 NG Futures Contract would result in a larger decrease in the price of the April 2006 NG Futures Contract than it would for the March 2007 NG Futures Contract.

[143] According to the data provided by the NYMEX, it appears that for the March 2006 NG Futures Contract termination, between 51 and 59 percent of Amaranth's trades time stamped between 2:00 p.m. and 2:30 p.m. are included in the settlement. For the April 2006 contract termination, approximately 92 percent of Amaranth's trades time stamped between 2:00 p.m. and 2:30 p.m. are included in the settlement. For the May

(continued)

because the most trenchant effect on the settlement price is not from the inclusion of Amaranth's progressively lower priced sales in the after-the-fact *calculation*, but instead from the impact, *in real time*, of Amaranth's sales on the entire pit trading environment as discussed above. The simple point is that Amaranth went into the pit with its large and obvious sales orders, with the intent to lower the settlement price, the entire pit reacted to that dynamic resulting in overall lower priced trading. Whether each of those Amaranth trades was included in the settlement calculated some hours later does not detract from the market-wide impact that occurred between 2:00 and 2:30 – and which created the universe of trades from which the settlement was calculated. Moreover, the exclusion of some trades did not materially affect the final settlement price. A calculation of a volume-weighted average price using all trades occurring in the thirty minutes yields a virtually identical price as the published price.

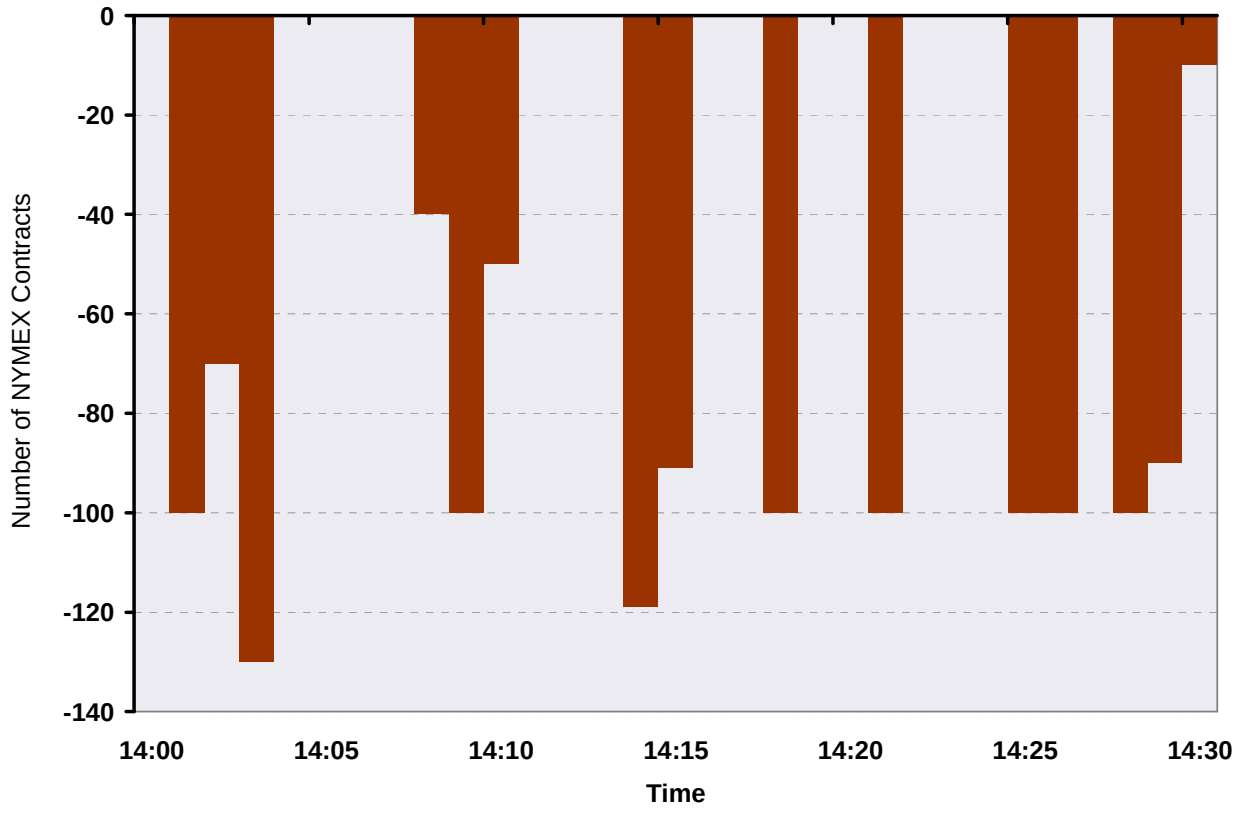
84. Based on the evidence described above, and in the absence of any credible alternative explanation or justification for this trading behavior, we preliminarily find that Amaranth manipulated the settlement price of the March 2006 NG Futures Contract, in violation of the Anti-Manipulation Rule.

2. Trading on March 29, 2006: *A Second Try*

85. After the success of the "experiment" in the February 24 trading for the March Contract, Hunter and Donohoe apparently decided to repeat this strategy for the April Contract on March 29. As on February 24, Amaranth held a large long position in the April NG Futures Contract prior to the settlement period, and proceeded to sell it "MoC" during the close. Amaranth's trade data, which are summarized in Figure 8 below, again provide strong evidence that Donohoe and Hunter employed a nearly identical trading strategy as that used for the previous month.

2006 contract termination, it appears that as much as 64 percent of Amaranth's trades time stamped between 2:00 p.m. and 2:30 p.m. are included in the settlement.

Figure 8: Amaranth's Trading in the Settlement Period for the April 2006 Contract[144]



86. On March 29, Amaranth entered the day with a long position of 1,603 April NG Futures Contracts.[145] In three separate orders, Amaranth directed ALX to sell 303 April

[144] NYMEX_00004 (NYMEX NG Futures Contract trade data).

[145] AMARANTH_REG091745_pos0328.xls (Amaranth end of day position report for March 28, 2006); AALLC_REG0672343 (E-mail at 10:10 a.m. on March 29 from Malach to Calgary Energy traders, among others, in which he request that they "[p]lease make sure that we are flat today with the below contracts, NGJ6. We agree with JPMU with Long 1603."). This is further confirmed by Donohoe's contemporaneous statements, *e.g.*, when he reported at 3:54 p.m. on March 29 to Malach, a compliance officer, that he had sold 1,603 futures that day to flatten his position. AALLC_REG0701583.

NG Futures Contract prior to the close between 12:41 p.m. and 1:50 p.m.[146] At 2:00 p.m. and 2:03 p.m. Amaranth placed further orders for ALX to sell 100 April NG Futures Contracts and 1,200 April NG Futures Contracts "MOC."[147] Once again, Delucia/Jim X of ALX was the selling broker in the trading ring.

87. During the week prior, Amaranth built its aggregate April swap position from being short roughly (9,500) futures contract equivalents at the end of the day on March 21 to short (17,884) futures contract equivalents at the end of the day on March 29.[148] Thus, although the amount of NG Futures Contract selling was *less* than the selling in the March contract, the amount of short swap contracts that stood to benefit from a lowered NG Futures Contract prices was *much greater*.

88. Amaranth profited by roughly $11,200,000 (at least) from its manipulation of the April NG Futures Contract on March 29. On March 29, the April NG Futures Contract was trading between about $7.26 and $7.32 in the half hour before and at $7.34 at 2:00 p.m., and then prices dropped right at the beginning of the settlement to about $7.15. From 2:00 p.m. to 2:30 p.m., the April NG Futures Contract traded in the range of $7.15 to $7.37 and settled at $7.233. Using the same methods applied to trading in the March NG Futures Contract, Dr. Kaminski estimates that Amaranth's trading caused the settlement price of the April NG Futures Contract to decrease by somewhere between $.04 and $.09 from where it would have settled without Amaranth's trading. Amaranth's April NG Futures Contract and April swap positions realized gains of $1.788 million per penny decrease in the settlement price of the April NG Futures Contract, for a total profit of between $7,200,000 and $16,000,000. In addition, Amaranth had a net short position of (19,639.5) contracts in the May NG Futures Contract and swaps, whose value increased by about $1.964 million per penny decrease in the May NG Futures Contract settlement price for that day. Amaranth's trading caused the May NG Futures Contract to settle lower by between $.02 and $.13 for a marked-to-market gain of between $4,000,000 and $25,500,000.

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[146] ALX047-49.

[147] ALX045-46.

[148] AMARANTH_REG091740_pos0321.xls, AMARANTH_REG091746_pos0329.xls (Amaranth end of day position reports for March 21 and 29, 2006). As before, Amaranth's other positions that may have benefited from a decline in the settlement price of the April NG Futures Contract are not included here.

89. Once again, Amaranth's trading patterns and the evolution of its positions in the April NG Futures Contract and April swaps evidence intent to artificially reduce the settlement price of the April NG Futures Contract. While Amaranth reversed its NG futures position from short to long on March 23 it maintained a short swap position through the end of the day on March 29 that significantly exceeded the long futures position, which demonstrates that its true aggregate position was net short. Amaranth held on to the majority of its long NG Futures Contract position until the beginning of the settlement, when it sold 1,300 contracts, including a single 1,200 contract MoC order. The intent and effect of such trading was to drive down the settlement price.

90. There are virtually no contemporaneous documents for this March 29 trading (as compared to those relating to February 24). In February, Hunter was trading alone in Calgary and thus needed to work through Donohoe in Greenwich. This created more of a "virtual paper trail" than exists for March, by which point Hunter had Donohoe and most of the rest of Hunter's team working in Calgary in a single trading room about the size of a large conference room. They were sitting right next to each other, and it is reasonable to conclude that the instant messages between the two became largely unnecessary.[149] In addition, it is conceivable that the traders, by then perhaps more fully comprehending the significance of their activities, determined that it might be prudent to stop any further recording of their thoughts and intentions in real-time.

91. Based on the evidence described above, and in the absence of any credible alternative explanation or justification for this trading behavior, we preliminarily find that Amaranth manipulated the settlement price of the April 2006 NG Futures Contract, in violation of the Anti-Manipulation Rule.

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[149] Hunter testified that he was on vacation in the Maldives during the settlement for the April contract, had no involvement with this close and no idea why Donohoe would have traded as described above. Hunter Dep. 50:15-51:14 (June 15, 2007). We have no reason to doubt that he was traveling. However, we find the notion that he neither was in contact with Donohoe nor had left instructions about the trading to be highly dubious, given the events of the preceding month, the importance of closing out the futures position to avoid delivery, and Donohoe's lack of authority to trade for a book on his own. Moreover, Hunter and Donohoe were in communication on March 29 regarding Hunter's book and other matters. AALLC_REG0700464 (Mar. 29, 2006, 4:13 a.m. E-mail from Donohoe to Hunter with the subject line "Call me asap" and stating, "Your book. Is fine. Your attn is needed elsewhere immediAtely [sic] unfortunatly [sic]."); *see also* AALLC_REG0680310 (chain of March 26, 2006 E-mails between Donohoe and Hunter).

3. Trading on April 26, 2006: *The "Last Eight Minutes"*

92. On April 26, 2006, the settlement day for the May NG Futures Contract, Hunter and Donohoe tried for a third time their new strategy, which had been so successful during the previous two months, but this time with a refinement likely (as discussed more fully below) directed also at the "prompt-next" spread value. As it turns out, Amaranth was not as successful in driving down the settlement price as before. However, the trade and position data and a few documents which capture communications between Calgary traders and managers in Greenwich and one taped telephone call between Donohoe in Calgary and brokers on the NYMEX trading floor in New York, again strongly indicate the manipulative intent and conduct.

93. Amaranth began April 26 with a long position of 3,044 May NG Futures Contracts.[150] In instant messages between Hunter and David Chasman, an energy risk manager in Greenwich, which took place seven minutes into the start of the settlement period, Hunter explained that Hunter is still "waiting to sell" his May NG Futures Contracts.[151]

94. In fact, Donohoe placed orders with three separate brokers (TFS, Gotham, and ALX) to sell these 3,044 contracts, in a highly orchestrated fashion starting at 2:22 p.m. Order tickets and audio recordings show that he instructed two of the three to wait until the last eight minutes to sell, *i.e.*, to begin at 2:22 p.m. The phrase "last 8 minutes" is written on the order tickets for Gotham and TFS,[152] while the order ticket for ALX – for 2000 May NG Futures Contract – is time stamped at 2:22 p.m.[153] Also, a taped telephone line at Gotham captured Donohoe and brokers at Gotham, as follows:

Barry: Gotham, Dave

Donohoe: TJ

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[150] AMARANTH_REG091765_pos0425.xls (Amaranth end of day position report for April 25, 2006); AMARANTH_REG_054788-90 (August 15, 2006 Letter from Amaranth to NYMEX regarding Amaranth's trading on April 26, 2006).

[151] A_CFTC032878 (Hunter at 2:02 p.m.); A_CFTC032910 (Calhoun at 2:07 p.m.).

[152] NX-USSEN-001548 (TFS ticket for 500 May NG Futures Contract MOC); NX-USSEN-001584 (Gotham ticket for 544 May NG Futures Contract).

[153] NX-USSEN-001350 (ALX order ticket for 2,000 May NG Futures Contract).

[. . . pit noise in background . . . .]

T.J.: Gotham T

Donohoe: Hey

[. . .pit noise in background . . .]

T.J. Hey, Matty what's up?

Donohoe: In the last eight minutes . . .

T.J.: Yes?

Donohoe: I need you to sell five hundred and forty four Mays

T.J.: In the last eight minutes sell 544 Mays

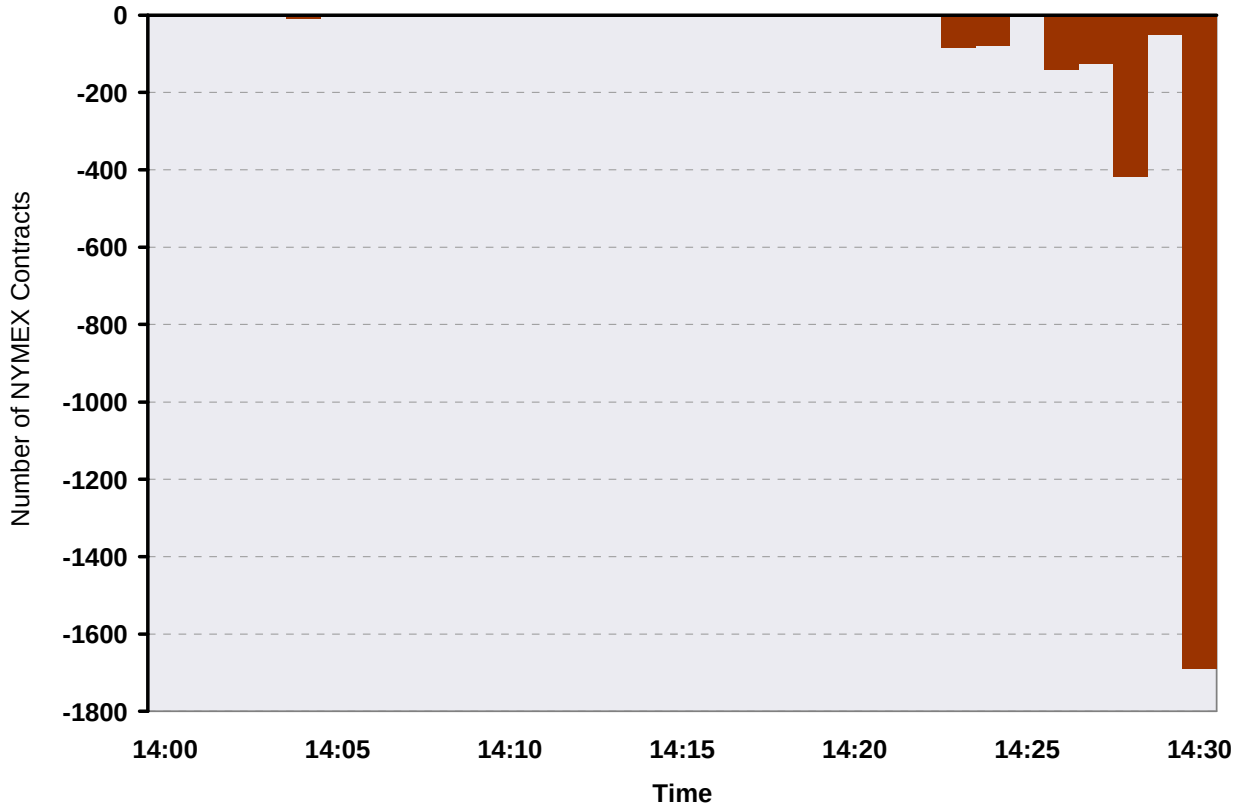
Donohoe: Yes

T.J.: You got it, my friend[154]

95. The time and volume of Amaranth's actual sales during the settlement period on April 26 are illustrated below in Figure 9 below.

[154] *See* NX-CFTC-7 (CD) NICESC_WAVF7 (audio file).

Figure 9: Amaranth's Trading in the Settlement Period for the May 2006 Contract[155]



96. As the evidence above shows, and Figure 9 demonstrates, Amaranth not only waited to sell in the settlement period, but waited to sell in the *final minutes* of the settlement period. There is no legitimate explanation or business justification for this trading behavior. While a savvy trader with only a prompt-month position including futures might legitimately wait until late in the settlement period in hopes of selling at a higher price, this is not the position that Amaranth held. Amaranth's actual net position was short (aggregated swaps and futures), and this position was significantly larger than its stand-alone prompt-month long futures position. Amaranth's net swap position's value would have been negatively impacted by a rising market that would have ostensibly benefited a stand-alone long position in futures. It is possible that this "last 8 minutes" approach was calculated to maximize the downward effect on prices owing to vanishing liquidity towards the end of the settlement period. The advantage to Amaranth would be that, given the increasingly "empty" pit in terms of remaining contract buyers, those

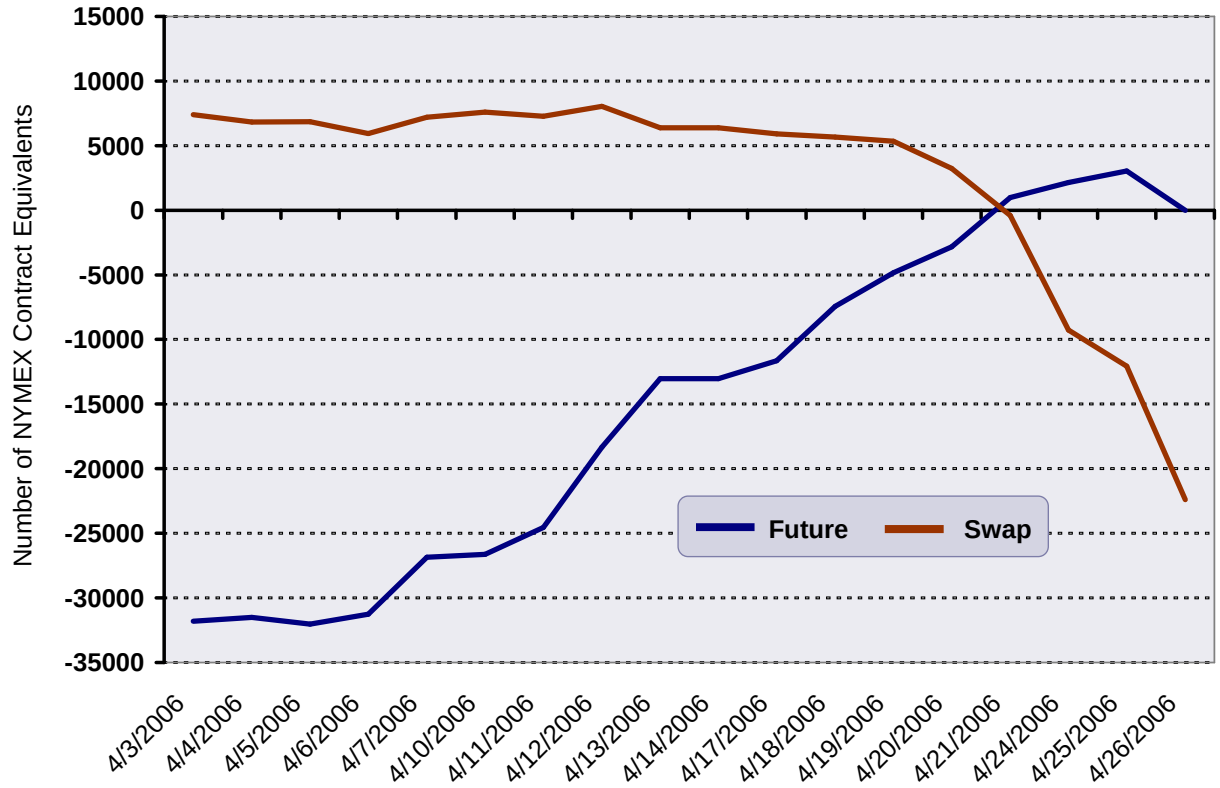
[155] NYMEX_00001 (NYMEX NG Futures Contract trade data).

buyers would be able to purchase at even lower prices in order to allow the counterparty to "exit" before delivery, and new buyers would have an incentive to take contracts to delivery by buying at low and advantageous prices.[156] This activity would lower the settlement price and increase the value of Amaranth's short swaps, which would liquidate with the termination of the futures contract. A second advantage was the extraordinary effect on the "last two minutes" of trading that impacted the settlement of the prompt-next (June) contract positions. Amaranth held an aggregated net short prompt-next (June) position between futures and swaps, as well as a long put position. Both of these positions substantially benefited by the lower settlement of the prompt-next contract that day. As discussed more fully below, Amaranth reported a profit in prompt-next positions of over $20,000,000.

97. As Figure 10 below shows, Amaranth began the month of April with a large short position in the May NG Futures Contract (which Amaranth gradually rolled forward to other summer contract months) and a smaller long position in May swaps. But, on April 21, Amaranth reversed its positions in both, first going flat, then, between April 21 and 26, built a long position of 3,044 May NG Futures Contracts and a short position of roughly (12,000) May swaps by the beginning of the day on April 26. On April 26, Amaranth built its short May swap position even further to (22,378) futures contract equivalents.

[156] *See* Bolling Dep. 215:16-216:3 (June 29, 2007) (describing "catching the pit with less liquidity" in final minutes of trading).

Figure 10: Amaranth April 2006 Daily Positions: May NG Futures Contract vs. May Swaps[157]



98. Amaranth made over $20,500,000 million (at least) from its manipulation on April 26. At 2:00 p.m. on April 26, the May NG Futures Contract was trading at about $7.12, and then traded in the range of $7.00 to $7.30. Notably, this profit was significantly less than it might otherwise have been because Amaranth's selling at the end of the settlement period was preceded by a fairly pronounced *increase* in prices. In this respect, the manipulative trading was only able to make the contract settle "less high" rather than

[157] AMARANTH_REG091749_pos0403.xls-AMARANTH_REG091766_pos0426.xls (Amaranth end of day position reports for April 3 through April 26, 2006).

"lower." But, that fact is not inconsistent with a manipulation – not every manipulation need be as successful as the manipulator might have hoped in order to be actionable.[158]

99. Amaranth's trading caused the settlement price of the May NG Futures Contract to decrease by an estimate of $.03. The task of estimating Amaranth's impact is greatly simplified by the distinct profile of its selling in the May contract as compared to the March and April contracts and Dr. Kaminski assigns a higher degree of confidence to this single estimate of $.03. Based on its net short position of (19,334) futures contract equivalents in May swaps, Amaranth would have benefited by $1.933 million dollars per penny decrease in the NG Futures Contract settlement price, so that it realized a profit from its manipulation of $5,800,000 on its net short position in the May NG Futures Contract and swaps. Amaranth also had a net short position of (13,380.75) June NG Futures Contract and swaps, whose value increased by $1.338 million per penny decrease in the settlement price of the June NG Futures Contract. Amaranth's trading on April 26 caused this price to decrease by an estimated $.06, for a total marked-to-market gain of $8,000,000.

100. For May, there appears also to have been an options-related element to the Amaranth trading in the settlement. For the March and April NG Futures Contract termination days, Amaranth did not establish or reduce options positions in any significant way. However, Amaranth established significant options positions in the final two days of trading for the May NG Futures Contract, which benefited significantly from Amaranth's manipulation of that contract. Between April 24 and April 26, Amaranth executed a straightforward series of options trades, all of which would benefit from lower prices and a declining market. On April 25, 2006, the second-to-last trading day for the May NG Futures Contract, also known as the penultimate day, Amaranth bought 6,600 June $7.25 puts, 5,150 June $7.00 puts and 120 July $7 puts. Amaranth did not trade any other NG Futures options that day. On April 26, the termination day for the May NG Futures Contract, Amaranth bought 3,000 $6.75 June puts and 180 July $7 puts. Again, Amaranth did not trade any other NG Futures options.

101. Sales during the last minutes of the May NG Futures Contract termination day on April 26 caused prices on that contract to fall. In response to that fall in prices, prices

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[158] *See Markowski v. SEC*, 274 F.3d 525, 529 (D.C. Cir. 2001) (finding that overall financial losses resulting from a failed scheme do not prevent a finding of intent to manipulate). The defendants in *Markowski* attempted to prevent a drop in the price of a particular security so as to maintain customer interest in their investment firm and sustain confidence in the firm's other securities, attempting thus to prevent potential additional losses. *Id*.

also fell in the last two minutes of trading of the June and July contracts, as the market maintained the "spread," or difference in price, among these three contracts. The June and July contracts settled lower on April 26, and Amaranth profited significantly. Amaranth reported its resulting June option position profit as approximately $20,600,000, and applying the methodology used above as to the June swap positions, the benefit to Amaranth was at least $6,700,000. These profits were derived from the decline in prices of the June and July contracts that resulted from trading of the May NG Futures Contract in the last two minutes of the settlement day, selling that was virtually dominated by Amaranth.

102. We note that Amaranth's daily profit and loss statement for April 26 states that Calgary Energy gained $37 million on its short Summer positions for the day, as prices decreased by an average of $0.15. The grand total for Calgary Energy on the day was $41,601,586.[159] As noted, these net gains probably include gains and losses unrelated to the manipulation, but also provide circumstantial evidence that complements our forensic (and necessarily imprecise) analysis.

103. In a letter dated August 15, 2006, Amaranth provided an explanation of its trading on April 26 in response to an inquiry from the NYMEX dated August 2, 2006.[160] The response was written and approved by Hunter and several other Amaranth executives, and signed by CRO Carrieri. But Amaranth's August 15 letter raises more questions than it answers and is in some respects contradicted by the contemporaneous evidence. First, Amaranth's letter provides misleading information as to its position with respect to May swaps. It acknowledges that "by April 26" (a careful avoidance of describing what happened "on April 26") it had built a short position of roughly (13,000) May swaps, and thus had a net short position in both the May NG Futures Contract and May swaps of (10,000). However, it failed to reveal that it sold an *additional* 10,000 May swaps *that day*, so that its actual net position (which stood to gain from any manipulation) was short (19,334) contracts.

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[159] AALLC_REG0693426-32 (including a roughly $31 million gain on the WINTERVOLSPREAD2, which included substantial May positions). Staff's analysis of the data provided by Amaranth, which includes only trades related to natural gas, shows a daily profit of roughly $49 million for April 26 including about $30 million on the WINTERVOLSPREAD2. AMARANTH_REG091765_pos0425.xls, AMARANTH_REG091766_pos0426.xls (Amaranth end of day position reports for April 25 and 26, 2006).

[160] AMARANTH_REG_054788-90 (Amaranth's response, dated August 15, 2006).

104. Amaranth also claimed falsely, that its trading of the May NG Futures Contract that day was related to its desire to reduce its overall Summer-Winter spread position, and that it was forced to trade the NG Futures Contract when it did (*i.e.*, roughly 3,000 contracts in the final three minutes) because of its inability to sell the desired amount of Winter contracts.[161] Amaranth's explanations that the trading in the May Contract was linked to its attempts to sell Winter contract months during the close, that Hunter would expect there to be much liquidity in the Winter months, or that he would wait until the settlement period to try to find this liquidity are difficult to accept. As another Amaranth trader testified:

> Well, during the May settlement most of the world or by world I mean the market is concerned with May trading only, or very – things that are linked to May, like a May-June spread or May-July spread. There are not a lot of people willing to go trade Winters or say 2008 gas during that half-hour period.[162]

In fact, Amaranth's position in the expiring May NG Futures Contract was an outright position (not a spread), that was completely independent of its position in other months. Further, Amaranth added to any purported need to "sell winters" with the (10,000) additional short summers about which it omitted to tell NYMEX. More generally, Amaranth had any number of alternative methods to reduce its summer/winter spread, including simply rolling forward into June any May positions that could not be offset with sales of winters.[163] None of those other options would have involved selling NG Futures in the settlement period, and most of them would have involved less price and execution risk.

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[161] *Id.* at 2.

[162] Lee Dep. 88:11-17 (Mar. 21, 2007 morning session).

[163] To "roll" out of a position simply means that the trader moves his position in a given contract month to a later month. For example, if a trader had a long position in the May NG Futures Contract, he would roll out of it by selling out his position in the May NG Futures Contract and simultaneously buying an equal number of June NG Futures Contracts. The result is that he would have zero May NG Futures Contracts and a long position in the June NG Futures Contract. If the trader had a short position, he would buy May NG Futures Contracts and sell an equal number of June NG Futures Contracts, so that he eliminates his position in May and has a short position in the June NG Futures Contract.

105. Aside from demonstrably inaccurate data and suspect explanations, we note that Amaranth frames its letter in terms of: "Here's one way you might employ this strategy," rather than stating what it in fact did. In the end, we believe that the August 15 letter represents an attempt by Amaranth to conceal from or falsely rationalize to the NYMEX its trading strategy on April 26.

106. As with the trading in the March and April NG Futures Contract, absent any credible alternative explanation or justification for this trading behavior, we preliminarily find that Amaranth manipulated the settlement price of the May 2006 NG Futures Contract, in violation of the Anti-Manipulation Rule.

4. Trading in Summer 2006

107. Hunter and Donohoe appear not to have attempted to manipulate the settlement price of June, July, or August NG Futures Contract. While the reasons behind this change in strategy are not entirely clear, it appears that, due to forces unrelated to these violations, Hunter's natural gas portfolio suffered significant losses in the range of $1 billion during the month of May, and Amaranth was forced to liquidate assets to have sufficient cash on hand to meet prospective margin calls.[164] As such, Hunter was short on capital and time for such endeavors, and under significant pressure from both Amaranth's senior management and its risk managers (who themselves were responding to pressure from Amaranth's investors) to reduce risk in Amaranth's natural gas positions.[165] In any event, by May 2006, the Calgary traders were under actual supervision of Amaranth management for the first time in half a year. Maounis testified that he directed the Calgary team to return to Greenwich for days at a time, on a regular basis, starting in June and through September, in part, to separate them from homes and families in order to motivate them to address the May losses.[166]

D. Amaranth's Trading "In Connection With" Commission-Jurisdictional Transactions

108. Amaranth's manipulation of the NG Futures Contract settlement price was "in connection with" Commission-jurisdictional transactions. First, the settlement price

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[164] Maounis Dep. 136:18-137:9 (Nov. 20, 2006 morning session).

[165] *See, e.g.*, Jones Dep. 79:9-81:9, 131:24-138:10 (Nov. 13, 2006 morning session); Maounis Dep. 22:20-29:19 (Nov. 20, 2006 morning session).

[166] *See* Maounis Dep. 21:15-22:19, 141:22-142:6 (Nov. 20, 2006 morning session).

directly sets the price for any contracts that ultimately go to delivery at Henry Hub. Second, the settlement price is directly incorporated into the price for physical basis transactions. As noted above, physical basis transactions have two legs: one leg set by the NG Futures Contract settlement price and a leg consisting of a fixed amount that is added or subtracted from the settlement price, which represents the expected basis at that location. Finally, a number of LDCs use the NYMEX price itself for supply agreements.

109. In addition, as noted, physical basis transactions make up all or a substantial majority of the bid week monthly transactions at trading points in the East, Mid-Continent, and the Gulf Coast, which are used to calculate the monthly price indices at these points. These indices are relied on by consumers, producers, marketers, and state regulators in pricing monthly wholesale transactions, a substantial volume of which are Commission-jurisdictional. Moreover, the effect of any manipulation of the NG Futures Contract settlement price on Commission-jurisdictional transactions is self-executing because the parties to these transactions select the NG Futures Contract settlement price in advance as a price benchmark and as a basis of the bargain.

110. The Anti-Manipulation Rule applies whether or not the manipulator's principal or exclusive purpose is the manipulation of physical natural gas sales. In Order No. 670, we stated that "we do not intend to construe the Final Rule so broadly as to convert every common law fraud that *happens to touch* a jurisdictional transaction into a violation of" the Anti-Manipulation Rule.[167] However, such a transaction would be covered if "in committing fraud, the entity . . . intended to affect, or have acted recklessly to affect, a jurisdictional transaction."[168] We noted that the "in connection with" language is drawn from similar language of Rule 10b-5 which has been very liberally construed.[169] Accordingly, the Anti-Manipulation Rule applies where there is a "nexus" between the manipulative conduct and the jurisdictional transaction.[170] Under the analogous Rule 10b-5 precedent, the alleged manipulator need not be a party to the jurisdictional

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[167] Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 22 (emphasis added).

[168] *Id.*

[169] *Id.*

[170] *See id.* at P 16 (stating where there is no "nexus" between the conduct and a jurisdictional transaction, fraud and manipulation in a non-jurisdictional transaction is not subject to the Anti-Manipulation Rule).

transaction,[171] nor must the connection be overwhelmingly direct.[172] Finally, we have also noted that a determination of manipulation, in general, is "a question of fact that is to be determined by all the circumstances of a case."[173] Given the facts discussed above, the manipulative conduct at issue here is more than sufficient to meet the generalized "in connection with" requirement.

E. *Scienter*

111. The evidence summarized above indicates that both Hunter and Donohoe traded with the intent to manipulate the settlement price of the March, April, and May 2006 NG Contracts. The settlement price directly sets the price of any futures contracts that go to delivery. Thus, Amaranth's conduct amounts to the intentional manipulation of the price for that jurisdictional gas.[174] This is so even if the *object* of the manipulation was simply

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[171] This fact is apparent from a textual reading of the Anti-Manipulation Rule, which prohibits "any entity" from engaging in manipulation "in connection with" a jurisdictional transaction (not "engaged in" or "a party to" a such transaction). Moreover, cases under the Securities Exchange Act of 1934, 15 U.S.C. § 78(b) (2000) (Exchange Act), generally demonstrate that one can violate Rule 10b-5 (which implements Section 10(b) of the Exchange Act) without being a purchaser or seller. *See, e.g.*, *Basic, Inc. v. Levinson*, 485 U.S. 224 (1988) (permitting shareholder suit for damages under 10b-5 where company made misleading statements that affected its own stock). Section 10(b) also does not require deception of an identifiable purchaser or seller, only deception "in connection with the purchase or sale of any security," in keeping with the Exchange Act's goal of ensuring honest markets. *See United States v. O'Hagan*, 521 U.S. 642, 658 (1997).

[172] The Anti-Manipulation Rule prohibits an entity from "directly or indirectly" committing fraud. The Supreme Court construes the "in connection with" language of the SEC regulatory scheme on which the Anti-Manipulation Rule is modeled flexibly, not technically and restrictively, in order to accomplish the scheme's remedial purposes. *See SEC v. Zandford*, 535 U.S. 813, 819 (2002) (citations omitted); *Superintendent of Insurance v. Bankers Life & Casualty Co.*, 404 U.S. 6, 12 (1971).

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

[174] *See* NYMEX Exchange Rulebook § 220.11(D) ("Natural Gas Futures Contract – Delivery Procedure"):

(D) SETTLEMENT PRICE

The last settlement price shall be the basis for delivery.

(continued)

to benefit swap or other derivative positions. Although this amount of physical gas is relatively small compared to the overall market and Amaranth did not take any contracts to delivery, the intent link is strong.

112. Importantly, Amaranth and its traders also knew that the NG Futures Contract settlement price affected or determined prices for physical gas and that manipulation of this price would harm all market participants. In a letter to the NYMEX, Amaranth stated that "the public relies on [the NG Futures Contract settlement price] as a *key price benchmark* for physical and financial contracts involving natural gas" (emphasis added).[175] Similarly, Amaranth traders and risk managers acknowledged the close relationship between the futures and physical markets and the importance of the NG Futures Contract as a price benchmark for substantial volumes of physical natural gas.[176] Amaranth and its traders certainly were eminently aware of the effect of the NG Futures Contract settlement price in setting the price of physical gas from their knowledge of market fundamentals and from their experience basis swap trading.[177] At the very least, Hunter and Donohoe were reckless with respect to the impact of their manipulation of the NG Futures Contract settlement price on prices in Commission-jurisdictional transactions. An entity may engage in reckless conduct through willful blindness or

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http://www.nymex.com/rule_main.aspx?pg=33#220.11.

[175] AMARANTH_REG_054783-84 (August 30, 2006 Letter to the NYMEX from Amaranth's Michael Carrieri).

[176] *See, e.g.*, Donohoe Dep. 78:15-82:15 (Mar. 14, 2007 mid-afternoon session); Calhoun Dep. 57:24-61:17 (Mar. 20, 2007 mid-afternoon session); Jones Dep. 38:14-39:14 (Nov. 13, 2006 late afternoon session); Lee Dep. 31:23-37:16 (Mar. 21, 2007 mid-afternoon session); Hunter Dep. 18:3-23 (Nov. 17, 2006). As Amaranth trader Lee explained:

> [A]nything that references the NYMEX natural gas price theoretically is linked … [A]n eastern [physical] basis contract, let's say Transco Zone Six New York, it references the settlement contract price. So theoretically whatever that settle is, that's the price New Yorkers are going to pay for the price of gas, so yes.

Lee Dep. 66:10-23 (Mar. 21, 2007 mid-afternoon session).

[177] Calhoun Dep. 15:24-16:7, 42:11-43:21 (Mar. 20, 2007, morning session); *see also* Basarowich Dep. 26:18-23, 34:21-35:2 (Mar. 28, 2007, morning session); Lee Dep. 12:13-15:24, 35:8-37:16 (Mar. 21, 2007 mid-afternoon session).

ignorance of the effect of its actions. In the context of the SEC's Rule 10b-5 on which the Anti-Manipulation Rule was modeled, recklessness may be found if there is a danger "so obvious that the actor must have been aware of the danger."[178] That test is amply satisfied here.

III. NOTICE OF PROPOSED PENALTIES

113. The remedies available for these violations include civil penalties and disgorgement of profits.[179] We discuss each in turn, after first assessing the timing and magnitude of the violations.

A. The Timing and Magnitude of the Violations

114. We have authority to impose a civil penalty of up to $1 million per violation, per day for any violations of a provision of the NGA or a Commission rule or order implementing one of those provisions that occurred or continued on or after August 8, 2005. Rule 1c.1 became effective January 26, 2006, and Amaranth's manipulative trading began about a month later and continued through late April, and is thus covered, temporally, by the Rule.

115. Neither EPAct 2005 nor our civil penalty regulation prescribes a formula for how a "violation" will be characterized or "counted" for purposes of assessing civil penalties. This is for good reason. The nature, timing, and numerosity of violation(s) will depend on the facts and circumstances of each case. And, as courts have noted, the means of manipulation "are limited only by the ingenuity of man."[180]

116. In this case, Amaranth entered orders resulting in 219 separate, multi-contract executions of orders reported as "fills" in open outcry pit trading in order to sell its

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[178] *Wonsover v. SEC*, 205 F.3d 408, 414 (D.C. Cir. 2000); *see also SEC v. Steadman*, 967 F.2d 636, 641-42 (D.C. Cir. 1992) *quoting Sunstrand Corp. v. Sun Chem. Corp.*, 553 F.2d 1033, 1045 (7th Cir.) (recklessness is met where a company "wantonly ignored" readily available evidence of the unfairness of a proposed acquisition and therefore failed to disclose certain facts).

[179] EPAct 2005 § 314(b) (2005) (codified at 15 U.S.C. 717t-1).

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

futures in the three settlement periods.[181] Each of these executions of orders involved varying numbers of futures contracts (ranging from as few as 10 to as many as 300). Each of these orders involved a different price and an independent transaction between floor brokers on behalf of customers or themselves.

117. The executions of orders were the essential acts that moved the settlement price. Amaranth's orders indicate its priority was to liquidate the futures position as quickly as possible, no matter how low the prevailing market price became, rather than to achieve sales at as high a price as possible, or to trade throughout the settlement period in an effort to match the settlement price. In addition, the evidence shows Amaranth armed its floor broker with information on its intent, and that either the floor broker used floor trading techniques with its orders to signal to others in the ring so as to maximize the effect of the overall Amaranth sales, or the market recognized that significant selling was occurring and responded, creating significant downward price effects.

118. On the facts of this case, it is appropriate to find that each of the 219 floor transactions, or "fills," was a separate violation and accordingly the maximum available civil penalty for all of these violations is $219,000,000.

B. Civil Penalties: Factor Analysis and Monetary Assessment

119. Not all cases merit maximum civil penalties. In determining the appropriate size of a civil penalty for a given violation, we were mandated by Congress to consider the seriousness of a violation and the remedial actions, if any, taken by a violator in response to a violation.[182] These factors were more specifically described in our *Enforcement Policy Statement*.[183] We apply those factors to the facts of every case in order to arrive at an appropriate civil penalty amount.

120. The seriousness factors are: (1) What harm was caused by a violation? (2) Was a violation the result of manipulation, deceit, or artifice? (3) Was the action willful, reckless, or deliberately indifferent to the results? (4) Was it part of a broader scheme? (5) Is it a repeat offense or does the company have a history of violations? (6) Was the

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[181] NYMEX_00001, NYMEX_00003-04 (NYMEX NG Futures Contract trade data).

[182] EPAct 2005 § 314(b) (2005) (codified at 15 U.S.C. 717t-1(c)).

[183] *Enforcement of Statutes, Orders, Rules, and Regulations,* 113 FERC ¶ 61,068 (2005) (*Enforcement Policy Statement*).

wrongdoing related to actions by senior management? (7) How did the wrongdoing come to light? (8) What effect would potential penalties have on the financial viability of the company? The remedial action factors are: (1) internal compliance, (2) self-reporting, and (3) cooperation. We analyze these factors by two groupings of Respondents: the Amaranth Entities and the individual traders.

1. Amaranth Entities

121. The Amaranth Entities are punishable for the actions of their employees, officers, and agents.[184] Hunter and Donohoe fall into several of those categories. Moreover, all of the technically, legally distinct Amaranth organizations are in practice a tightly knitted association-in-fact, which operated as a single entity under the direction of Maounis and his fellow executives. The "Advisor" entity that employed the traders, and the traders themselves, under the Advisory Agreement between Amaranth LLC and Amaranth Advisors L.L.C., are (or were) broadly empowered agents of the Fund entities.[185] Thus, under all the circumstances, it is appropriate to assess only one civil penalty against the Amaranth Entities, collectively.

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[184] We routinely sanction a company for the actions of its employees. *See, e.g.*, *In re PacifiCorp*, 118 FERC ¶ 61,026 (2007); *In re SCANA Corp.*, 118 FERC ¶ 61,028 (2007), *In re Entergy Servs., Inc.*, 118 FERC ¶ 61,027 (2007); *In re NorthWestern Corp.*, 118 FERC ¶ 61,029 (2007); *In re NRG Energy, Inc.*, 118 FERC ¶ 61,025 (2007). It is well established that traditional vicarious liability rules ordinarily make principals or employers vicariously punishable for acts of their agents or employees in the scope of their authority or employment. *See In re Raymond James Fin. Servs, Inc.*, 2005 SEC LEXIS 2368, at *170 (Sept. 15, 2005) (in fraud action, holding that law of agency and doctrine of *respondeat superior* are available to find firm liable for actor's illegal actions); *AT&T v. Winback and Conserve Program, Inc.*, 42 F.3d 1421, 1431 (3d Cir. 1994) (recounting how "agency doctrine, including the theory of apparent authority, has long been a part of the federal system" and stating "a corporation can only act through its agents, and therefore only can be bound through application of agency principles"); *Am. Soc'y of Mech. Eng'rs v. Hydrolevel Corp.*, 456 U.S. 556, 567 (1982) ("The apparent authority rule has long been the settled rule in the federal system.").

[185] AMARANTH_REG049258-59 (Advisory Agreement between Amaranth Advisors LLC and Amaranth LLC dated December 31, 2003).

a. Seriousness Factors

122. Almost all of the seriousness factors favor a very high penalty as to the Amaranth Entities. In general, this is a *serious* case. It involves the Anti-Manipulation Rule, one of the most important elements fulfilling the Commission's mandate to ensure fair and competitive markets. The only factor favoring the Amaranth Entities of which the Commission is aware is the absence of prior similar behavior. We discuss the remaining factors more particularly below.

i. Harm

123. The harm to the market was significant. Consumers are harmed when prices are set by manipulation. The harm to consumers from an upward manipulation is immediate. Harm from downward manipulation is more long term. The manipulation also diluted the price discovery and hedging functions that these markets are supposed to provide. These functions depend on pricing based on fundamentals and valid predictions about future values, and are perverted by manipulative schemes designed to create prices unconnected to such fundamentals. Producers who sold natural gas pursuant to physical delivery obligations tied to the NG Futures Contract, or indirectly based on the NG Futures Contract as a price benchmark, were paid significantly less than the market price for their gas. The pecuniary interests of state governments and the federal government were also affected given that these governments sell rights to produce natural gas from public lands based on royalties tied to the NYMEX settlement price. Policing market behavior is about protecting the interest of *all* participants, sellers and consumers alike. In order to attract the supply and investment in production and infrastructure on which the natural gas markets rely, the prices sellers obtain for their product must be based on a fair and well-functioning market. Amaranth's manipulation harmed these interests significantly.

ii. Willfulness

124. The manipulation was the result of intentional and deceitful conduct. It was willful as to the futures settlement price that sets the price of physical gas sold on delivery from the NG Futures Contract and (at least) reckless as to the secondary physical market impact such as physical basis. We find especially troubling the evidence from the IMs that shows the traders knew their conduct was suspect (*e.g.*, Hunter telling Glover "shhhh")[186] and that the subsequent explanations for the trading are at best disingenuous and arguably false.

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[186] AALLC_REG0684227 (Instant Message from Hunter to "gloverb," February 24, 2006).

iii. Senior Management Involvement

125. Hunter was a Vice-President of Amaranth at the time of the offenses and the more senior managers Maounis, Carrieri, and Jones created the conditions that permitted the violations (or may have actually known of them). The wrongdoing was discovered only as a result of Commission inquiry (not as a result of management's discovery or correction). The failure of Amaranth's senior management to supervise and prevent manipulative trading by traders Hunter and Donohoe is a particularly significant factor in our determination of the amount of civil penalties. In particular, Hunter's trading and related activities raised a number of "red flags" that must have put Jones, Carrieri, and Maounis on notice that Hunter was likely engaged in manipulation, or at the very least, highly improper conduct. These executives either actually knew of Hunter's manipulative trading or willfully blinded themselves to the numerous warning signs.[187] Because of the importance of this factor to our determination in this case, we discuss it in detail.

126. As noted, Hunter was hired in 2004 with the executives' awareness of the allegations that he had engaged in risky behavior at Deutsche Bank.[188] To keep him at Amaranth in 2005, the executives elevated him in status and importance and moved him out from under Arora's direct supervision.[189]

127. When Amaranth sought the hedge exemption shortly thereafter, Amaranth represented to NYMEX in August 2005, that the "Chief Risk Officer [Jones] ha[d]

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[187] We note that the Anti-Manipulation Rule may be applied to sanction misconduct by senior management who are responsible for supervising traders and who intentionally or recklessly permit manipulative conduct to occur. Indeed, we have given serious consideration to seeking civil penalties against the Amaranth executives personally. We exercise prosecutorial discretion in this case not to seek penalties from the executives personally, in no small measure because the largest investors in the Funds were insiders and employees, and these executives were among the largest holders in that category. Maounis Dep. 27:9-14 (Nov. 20, 2006 morning session). Thus, these executives will pay a significant price due to the payment of the civil penalty by the Amaranth Entities. We observe that future cases involving executive management failures to rein in violations by employees may not present this unique element.

[188] *See supra* P 35; *see also* Arora Dep. 76:3-21 (Nov. 14, 2006 afternoon session).

[189] AMARANTH_REG003387-93 (June 1, 2005 Letter setting forth Hunter's compensation package); *see also* Arora Dep. 16:21-25 (Nov. 14, 2006 morning session).

assigned a risk manager "to sit among the energy traders to facilitate close monitoring of price risk within the book as well as market conditions."[190] But in October 2005, Amaranth allowed Hunter to move his trading desk to Calgary and did not assign risk management or compliance personnel to sit with the Calgary natural gas traders. As noted, Amaranth increased Hunter's percentage of profits due for his trading, thus creating further incentive to earn extraordinary profits from the manipulation. Subsequently, Amaranth allowed Hunter to increase the size of his natural gas positions such that Amaranth allocated well over *half* of its capital to its energy book by the Summer of 2006, thus increasing the Funds' dependence on Hunter,[191] while Amaranth was stating to its investors that it intended to reduce its energy exposure.[192] Before he left, Arora expressed to Jones and Maounis concerns about Hunter.[193]

128. Managers in Greenwich failed to construct their IT systems such that they could directly look at computer screens that reported the trading and position data in real time of the trading going on in Calgary.[194] Jones appears to have experienced rather poor

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[190] A_CFTC000051-56 (Amaranth Letter to NYMEX dated August 23, 2005 at 2). Chasman, Amaranth's head risk manager for energy trading, recognized the need to have risk management personnel "on the ground" in Calgary, but Amaranth had still not assigned anyone to the task by September 2006, nearly a year after Hunter first relocated to Calgary. Chasman Dep. 116:5-116:20 (Nov. 28, 2006 morning session).

[191] *See*, *e.g.*, AALLC_REG0767207-28, AALLC_REG0605202, AALLC_REG0550756, AALLC_REG0609346, AALLC_REG611335 (series of documents Amaranth provided to investors outlining the percentage of risk capital allocated by strategy, *e.g.*, energy, long/short equity, merger arbitrage, US/international convertible arbitrage, for the period from January 2004 through June 2006. In early 2005, Amaranth devoted less than 20 percent to energy, growing to roughly 30 percent by late summer 2005, then 35 percent or more in early 2006, then finally shooting up to 50 percent in May 2006 and 56 percent in June 2006, the last month for which this report was prepared.).

[192] Maounis Dep. 100:25-101:23 (Nov. 20, 2006 morning session); Jones Dep. 131:19-134:13 (Nov. 13, 2006 morning session).

[193] Jones Dep. 38:15-41:4 (Nov. 13, 2006 morning session); Arora Dep. 25:4-29:15 (Nov. 14, 2006 morning session); Maounis Dep. 12:8-13:4 (Nov. 20, 2006 morning session).

[194] Maounis Dep. 36:7-21 (Nov. 20, 2006 morning session).

communications with Hunter[195] and could only view intra-day activity when he "sat on the trading desks" which he never did in Calgary.[196] As to Maounis, Hunter's direct supervisor, though he could have reviewed the computerized reports of actual trading activity himself in real time, he "never looked at the screens" in Calgary, Greenwich or anywhere else apparently.[197] In fact, Maounis and Jones visited Calgary once, and not to supervise or even observe the trading operation, but instead to attend the July 2006 "Stampedes" event and attend dinners and events with investors and other market participants.[198]

129. In mid-March (just a few weeks after the first manipulative trading occurred), NYMEX sent Amaranth a violation letter for violating the very same NG Futures Contract hedge exemption (on February 23, 2006 – the day just prior to the first settlement of interest here).[199] This highlighted (or should have) for Amaranth's senior management that they needed to evaluate Hunter's activity and perhaps exercise some measure of control, yet the manipulative trading continued in March and April, perhaps

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[195] Indeed, there was some tension between Jones and Hunter in that Jones was frustrated by the difficulties in reaching the traders in Calgary to obtain information necessary to monitor their positions and risk profile. Jones Dep. 124:20-130:14 (Nov. 13, 2006 morning session); AALLC_REG0011580 (April 24, 2006 E-mail in which Jones tells Hunter "[y]ou need to have someone on the desk by 8:30 EST. every day. Ideally someone who has a qualified opinion on your portfolio or who can quickly contact someone who has." Jones re-sent the identical e-mail to Hunter each day at roughly the same time for the rest of that week until April 28, apparently to emphasize his frustration with Hunter's group). Unfortunately, any improvement in communications seems not to have occurred until after the manipulative conduct presented here.

[196] Jones Dep. 121:4-18 (Nov. 13, 2006 morning session).

[197] Maounis Dep. 36:22-25 (Nov. 20, 2006 morning session).

[198] Maounis Dep. 45:13-49:4 (Nov. 20, 2006 late afternoon session).

[199] AMARANTH_REG_054785 (Letter from NYMEX to Amaranth regarding Violation of Exchange Rule 9.28, March 13, 2006); *see* NYMEX Exchange Rulebook § 9.28, *available at* http://www.nymex.com/rule_main.aspx?pg=8#9.28. The letter referred to Amaranth's open commitment in the March 2006 NG Futures Contract, and stated that at the end of the day on February 23, 2006, Amaranth had exceeded its prompt month hedge exemption position limit of 2,500 contracts by 1,146 contracts (*i.e.*, almost 46 percent). AMARANTH_REG_054785.

because Hunter's natural gas trading book was an "enormous source of profitability for the fund in the beginning of [2006]."[200]

130. Amaranth senior management also participated in drafting and/or approving misleading statements in its August 15, 2006 letter to the NYMEX regarding its natural gas trading on April 26 in the May NG Futures Contract. A second NYMEX/Amaranth exchange from later in August 2006 shows just how far these executives were willing to let Hunter trade at his discretion with minimal supervision. After several hedge exemption violations *and* a NYMEX investigation opened against Amaranth for NG Futures Contract settlement trading, when the executives' control and oversight over Hunter should have been at its zenith, at the end of August 2006 as the settlement period approached, Hunter again violated the NYMEX's position limits – this time exceeding the standard limit by almost 9,000 combined futures and futures-equivalent contracts.[201] The NYMEX took the unusual step of contacting Amaranth the morning of the settlement day and instructing Amaranth to liquidate that position in an orderly fashion over the course of the day and not to carry any large positions into the settlement.[202]

131. In reviewing this record of management behavior through the winter and late spring of 2006, we are struck by the contrasting approach in May 2006 when Hunter's book lost Amaranth over $1 billion, but the firm was still a going concern, Maounis started recalling Hunter and team physically to Greenwich on a routine basis for days at a time, all through the summer of 2006.[203] So, when the executives really wanted to control Hunter, they made him come to Greenwich, but when the "enormous source of profitability" was rolling, management was content to leave Hunter to his devices more than half a continent away. This record is deeply troubling and weighs heavily in our determination that the Amaranth Entities should be severely penalized for the behavior of Hunter and Donohoe.

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[200] Jones Dep. 71:17-19 (Nov. 13, 2006 morning session).

[201] AMARANTH_REG091856_pos0828.xls (Amaranth end of day position report for August 28, 2006, showing short position of (6,721) September NG Futures contracts and short (4,760) NN futures at Henry Hub for the September contract).

[202] *See* AMARANTH_REG_054783-74 (August 30, 2006 Letter from Amaranth's Carrieri to NYMEX, referencing the fact that Amaranth had been instructed by NYMEX not to trade large orders during the settlement period on August 29).

[203] Maounis Dep. 21:15-23:14 (Nov. 20, 2006 morning session).

iv. Financial Impact

132. Evaluation of the financial viability of the company as a factor seems neutral, as the firm is dissolving. There are sufficient assets left in the Amaranth Entities to satisfy maximum penalties.

b. Mitigation Factors

133. The mitigation factors do not much alter the case for a high penalty. The company did not self report. The compliance and risk management program was weak. Cooperation with staff investigation has been acceptable (as it should be in all cases) but not exemplary so as to merit consideration in setting the penalty amount.

134. On balance, the penalty factors support a nearly maximum civil penalty. A civil penalty against the Amaranth Entities of $200,000,000 is appropriate.

2. Traders Hunter and Donohoe

135. As to these two individuals, virtually all of the seriousness and mitigation factors weigh in the same way for a high penalty as they do with respect to the Amaranth Entities. Indeed, because they personally and directly engaged in the manipulation, the traders' level of culpability is higher. Hunter's cooperation has, of late, gone from acceptable to unacceptable, including a refusal voluntarily to complete his testimony.[204] On the other hand, the traders have *much less* of an ability to pay, though they were highly compensated and do have significant resources. Hunter still has a substantial net worth after having purportedly earned $75 to $100 million in 2005, as well as seven- or eight-figure compensation in previous years.

136. Donohoe presents a similar case to Hunter, but has a much lower net worth and stood to earn much less from the illegal behavior (based on industry standards for an execution trader, likely only one to two percent of profits compared to fifteen percent as

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[204] Although the details are unnecessary to recount here, Hunter failed to appear for an agreed upon second deposition by staff and subsequently refused voluntarily to give further sworn testimony, agreeing only to be interviewed not under oath. Under different circumstances, staff might have subpoenaed him and proceeded with enforcement of that subpoena in United States District Court. However, on the facts of the case, in particular the vast body of inculpatory evidence already gathered, as well as a deposition Hunter subsequently gave to the CFTC a transcript of which staff obtained, this step was unnecessary.

to Hunter). Moreover, he was more of an instrumentality (though knowingly so) of the manipulation as opposed to Hunter, the mastermind.

137. There are strong enforcement and deterrence policy bases for setting the civil penalties for individual traders at a high level. The traders in this industry have historically been capable of easily recovering from disastrous performance or misconduct by simply moving to, or starting up, another trading operation. Even after spectacular failures, a trader can attract capital to start new trading activities or a new fund. Currently, Hunter is reported to be developing a new hedge fund of his own called Solengo, which (should it be permitted to register with appropriate regulatory authorities) is also expected to trade in financial energy products. Donohoe is currently employed by Bank of Nova Scotia and is involved in energy trading for that firm. Under the circumstances, the Commission sends here a clear message that manipulation will have severe personal consequences for individual traders in order to deter them and others from violative behavior.

138. Based on the foregoing factors, in particular the relative proportion of profits the traders stood to gain as compared to the Amaranth Entities, we find that civil penalties of $30,000,000 for Hunter and $2,000,000 for Donohoe are appropriate.

C. Disgorgement

139. Unlike civil penalties, we do not approach the assessment and ordering of disgorgement of unjust profits as a discretionary matter.[205] Except in rare circumstances not present here, any unjust profits earned from the violations must be disgorged in their entirety. As noted, as a result of its manipulation, Amaranth profited by a total of *at least* $59,000,000 and perhaps as much as $168,000,000 on these three settlement days as a direct result of the manipulation. At a minimum the most conservative of these numbers, $59,000,000 plus interest calculated at the rates published by the Commission for natural gas refund purposes should be disgorged.

[205] *Enforcement Policy Statement*, 113 FERC ¶ 61,068 at PP 19, 23, 25 (2005) ("[A]t a minimum a company involved in wrongdoing must disgorge any unjust profits resulting from the wrongdoing.").

IV. CONCLUSION AND ORDER

140. In 2000 and 2001, when Enron traders manipulated western energy markets, they referred to their schemes as "experiments."[206] Their conduct bespoke an attitude that markets served as their private laboratories where they were free to tinker with prices and supply in order to test responses and to make extraordinary profits. Their "experiments" gave little care to the harmful impact of such behaviors on the functioning of the markets or harm to other market participants and the public at large. Congress passed the salient provisions of EPAct 2005 in direct response to those behaviors and charged us with the obligation to detect, investigate, punish, and deter such manipulations. As Hunter's "bit of an experiment" illustrates, even after the legal aftermath of Enron, the enactment of EPAct 2005, and the promulgation of Commission rules, there are still those who need to recognize that manipulation, even in complex markets, can be detected and, when proven, will be punished severely.

The Commission orders:

(A) The Respondents, within 30 days of the date of this order, to file answers in accordance with 18 C.F.R. § 385.213 (2006) showing cause why they should not be found to have violated section 1c.1 of the Commission's regulations by trading in the March, April, and May 2006 NG Futures Contract on February 24, March 29, and April 26, 2006.

(B) The Respondents, within 30 days of the date of this order, to file answers in accordance with 18 C.F.R. § 385.213 (2006) showing cause why their violations of section 1c.1 of the Commission's regulations should not warrant the assessment of civil penalties of $200,000,000 in the case of the Amaranth Entities, $30,000,000 in the case of Hunter, and $2,000,000 in the case of Donohoe and an order to disgorge unjust profits of $59,000,000 plus interest as described in the body of this order.

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[206] *See* FERC Trial Staff, March 1, 2005, Initial Tape Testimony Filing, Docket No. EL03-180, at 8 (Enron audio files of telephone calls relevant to the "Get Shorty" scheme, entered as Exhibit No. S-123, File ID 158610, File Name 23-20000918-8363259-8411931.mp3); *see generally Final Report on Price Manipulation in Western Markets*, Docket No. PA02-2-000, at VI-3, VII-13, IX-12 (March 26, 2003), *available at* http://www.ferc.gov/industries/electric/indus-act/wec.asp#skipnavsub (follow "Part 2" hyperlink).

(C) In any answer, Respondents to address any matter, legal, factual or procedural, that they would urge in the Commission's consideration of this matter.

By the Commission.

(S E A L)

Kimberly D. Bose,
Secretary.