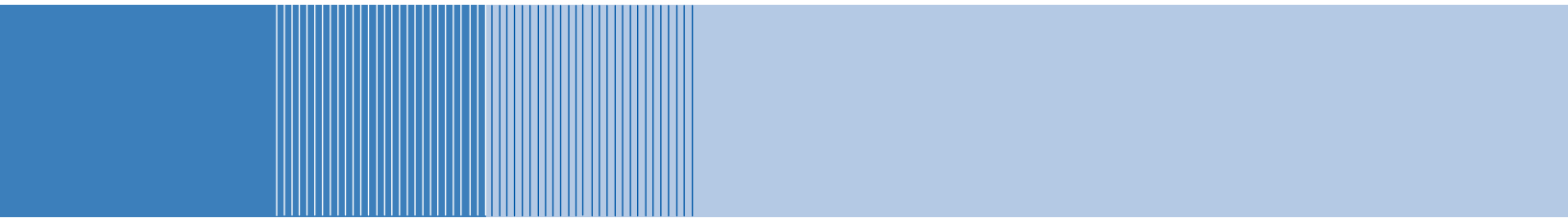
December 20, 2011

Cost-Benefit Analysis of the CFTC's Proposed Swap Dealer Definition Prepared for the Working Group of Commercial Energy Firms



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Executive Summary

National Economic Research Associates, Inc. (NERA) has been engaged by Hunton & Williams LLP (Hunton & Williams), counsel to the Working Group of Commercial Energy Firms (Working Group), to analyze the incremental costs and benefits associated with the CFTC's proposed definition of "Swap Dealer" under the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank). NERA performed a detailed analysis of the activities that will be required of entities designated as Swap Dealers by the CFTC and developed estimates of the costs for Nonfinancial Energy Companies[1] to comply with the associated proposed CFTC regulations. NERA also analyzed the potential benefits of the CFTC's proposed regulation of Nonfinancial Energy Companies falling under the definition of "Swap Dealer."

NERA's cost-benefit analysis demonstrates that the proposed expansive definition of "Swap Dealer" is contrary to the public interest. Under the proposed rulemakings, Nonfinancial Energy Companies that fall within the definition of "Swap Dealer" will face significant increases in incremental costs, while little or no incremental benefit will accrue to over-the-counter (OTC) energy swaps markets and users of OTC energy swaps. If the stringent regulations contained in the proposed rulemakings are imposed on Nonfinancial Energy Companies, the rules will likely:

- Push some of these critical "physical" players out of the CFTC-regulated energy swap markets and deter new entrants;
- Harm price discovery and market efficiency in these markets;
- Reduce liquidity in these markets; and
- Concentrate market share in these markets among the financial institutions that serve as traditional Swap Dealers.

NERA finds that the incremental costs imposed on a typical Nonfinancial Energy Company regulated as a Swap Dealer are approximately:

- $153 Million in increased Margin costs
- $204 Million in Capital costs
- $31 Million to comply with new requirements for Business Conduct, Reporting and Record Keeping
- **Total of $388 Million[2]**

[1] A Nonfinancial Energy Company is an entity engaged in production, physical distribution or marketing of natural gas, power or oil that also engages in active trading of energy derivatives.

[2] These present-value costs represent the cost today of becoming or remaining a Swap Dealer. As such, it is those cost numbers that are most relevant to Nonfinancial Energy Companies that are faced with the possibility of being captured by the CFTC's proposed broad definition of "Swap Dealer." The analysis assumes a 10-year time horizon for the present-value calculations. Since the CFTC expresses its cost estimates for business conduct, reporting and recordkeeping requirements on a pre-tax basis, NERA also does so to facilitate comparison. Similarly, NERA presents margin and capital costs on a pre-tax basis. Note that increases in expenditures on business

Substantial Costs Imposed Upon Nonfinancial Energy Companies Deemed Swap Dealers

Margin and Business Infrastructure Costs

- NERA estimates that for Nonfinancial Energy Companies at risk of being designated as Swap Dealers, the **first-year** incremental costs to comply with the CFTC's proposed rulemakings are approximately:
  - $23 million for margin requirements.[3]
  - $13 million for reporting, recordkeeping and business conduct infrastructure, and
- **Total** incremental compliance costs, including first-year costs, are approximately:
  - $31 million per firm for reporting, recordkeeping and business conduct infrastructure, expressed on a present-value basis, and
  - $153 million per firm for margin costs, expressed on a present-value basis.
- The $184 million in total present-value cost, exclusive of capital charges, is the regulatory cost in today's dollars facing an average Nonfinancial Energy Company electing to continue in a line of business captured under the CFTC's broad definition of "Swap Dealer."[4]
- When applied to the universe of Nonfinancial Energy Companies at risk of being regulated as Swap Dealers, [5] the incremental cost of posting margin under the proposed rules reaches a total on-going annualized cost of nearly $587 million per year, or $4 billion on a present-value basis.
- Business conduct and recordkeeping and reporting related incremental costs to Nonfinancial Energy Companies at risk of being captured by a broad definition of "Swap Dealer" reaches a total on-going annualized cost of nearly $82 million per year, or $557 million on a present-value basis. The initial

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conduct, reporting and recordkeeping will tend to reduce the taxes paid by Nonfinancial Energy Companies, all else equal. Consequently, the *after-tax* costs of becoming or remaining a Swap Dealer are expected to be lower by an amount equal to the reduction in taxes payable. Similarly, the after-tax cost of raising funds to meet margin or regulatory capital requirements will be lower than the pre-tax costs by an amount equal to the taxes payable.

[3] These estimates reflect market conditions during 2010. The costs of meeting margin requirements will rise with increased commodity prices, tighter credit markets or a higher interest rate environment.

[4] Because the CFTC looked at costs on an annual basis, NERA presents annual costs for comparison, as well as present-value costs.

[5] Twenty-six individual Nonfinancial Energy Companies filed comments on or met with the CFTC regarding the definition of "Swap Dealer." Accordingly, NERA has used twenty-six as an estimate of the number of Nonfinancial Energy Companies captured by the broad definition of "Swap Dealer." As many Nonfinancial Energy Companies participate in the regulatory process through various trade associations, this estimate is likely conservative. The trade associations that filed comments included not only trade association representing larger Nonfinancial Energy Companies such as the Edison Electric Institute and the American Petroleum Institute, but also trade associations representing smaller municipal entities such as the National Rural Electric Cooperative Association and the American Public Power Association.

set-up costs are substantial at $261 million. The total incremental cost of compliance with business conduct and recordkeeping and reporting related requirements is $819 million on a present-value basis.

Capital Costs

- NERA estimates that the carrying cost of regulatory capital for a newly formed and capitalized Swap Dealer entity within a Nonfinancial Energy Company regulated as a Swap Dealer is approximately
    - $36 million per firm on an annual basis, and
    - Approximately $204 million on a present-value basis.[6]
- The potential cost of holding regulatory capital under the proposed rules to Nonfinancial Energy Companies regulated as Swap Dealers could reach a total on-going annualized cost of nearly $929 million per year, or $5.3 billion on a present-value basis.

Comparison with the CFTC's Costs Estimates

- NERA finds that the CFTC has significantly underestimated the incremental costs of compliance with its proposed rules for Nonfinancial Energy Companies designated as Swap Dealers. The CFTC's cost estimate is approximately 7 percent of the ongoing annualized costs estimated by NERA, **exclusive** of any potential capital charges.

No Measurable Benefits to Energy Derivatives Markets from Regulating Nonfinancial Energy Companies as Swap Dealers

- NERA finds very little to no incremental benefit associated with including Nonfinancial Energy Companies as Swap Dealers under the proposed rulemakings, as doing so would do little to advance the objectives of Dodd-Frank, which include reducing excessive leverage in the financial system, mitigating systemic risk, increasing market transparency and enhancing consumer protections.[7]
- **No increase in liquidity**. The CFTC's cost benefit analyses assume that its rules will lead to higher levels of liquidity in the over-the-counter swap markets, lowering hedging costs for swap users. NERA's analysis indicates that increased liquidity and lower hedging costs are not likely to materialize.
- **No decrease in swap prices**. NERA estimates that compliance costs associated with Dodd-Frank could increase swap prices by as much as 3-5 percent.[8] Even if increased transparency were to compress spreads between Swap Dealers, NERA anticipates the principal effect of the regulations would most likely be an increased cost of hedging.

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[6] These estimates are exclusive of legal costs associated with migrating swap dealing activity to a stand-alone entity.

[7] See page i of the Financial Stability Oversight Council. "2011 Annual Report." See also: "Dodd-Frank Act: Before the Committee on Banking, Housing, and Urban Affairs," U.S. Senate, (July 21, 2011) (testimony of Chairman Ben S. Bernanke).

[8] See Exhibit 3.

- **Fewer active firms.** NERA projects that the CFTC's proposed broad definition of "Swap Dealer" and associated compliance costs will push some Nonfinancial Energy Companies out of the financial energy swap markets.[9] By imposing undue costs on Nonfinancial Energy Companies, the CFTC is creating barriers to competition and reducing market efficiency.

- **No reduction in systemic risk.** The CFTC premises its proposed rulemakings on the assumption that they will reduce systemic risks to the financial system. NERA's research and analysis uncover no evidence to support the notion that energy swap trading by Nonfinancial Energy Companies is a source of systemic risk.

- **No reduction in leverage**. Based on NERA's analysis, the debt to total capital ratio for a Nonfinancial Energy Company is approximately 0.6 to 1. This is in stark contrast to financial dealers; for example, Bear Stearns was levered 35 to 1[10] and MF Global 40 to 1[11] at the time of their collapse. As such, regulating Nonfinancial Energy Companies as Swap Dealers will do little to eliminate excess leverage in the financial system.

- **No incremental increase in transparency.** Regulating Nonfinancial Energy Companies as Swap Dealers creates no incremental benefits for market transparency. Since all swaps will be reported and the prices of almost all swap transactions will be publicly reported in real-time under Dodd-Frank regardless of whom the counterparties are, there will be little to no increase in transparency from regulating Nonfinancial Energy Companies as Swap Dealers.

- **Increased harm to consumers.** Congress put in place reasonable, basic protections for counterparties under the Dodd-Frank. NERA's analysis shows that the additional requirements set forth by the CFTC provide little to no added benefit to market participants and impose substantial transaction level costs. Regulating Nonfinancial Energy Companies as Swap Dealers under the proposed rulemakings will hurt, not help, consumers. NERA estimates that regulatory compliance costs could raise swap prices by 3-5 percent.

Based on the significant costs that Nonfinancial Energy Companies designated as Swap Dealers would face under the proposed rulemakings and the lack of public benefits, NERA concludes that an expansive definition of "Swap Dealer" that potentially includes many Nonfinancial Energy Companies does not pass a cost-benefit test and is not in the public interest.

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[9] See Exhibit 4, which shows the degree of profit erosion (or elimination) resulting from incremental costs of Dodd-Frank.

[10] See "Doomsday on Wall Street: The Last Days of Bear Stearns," *Fortune,* March 31, 2008.

[11] See "MF Global's Risky Bets on Europe Backfire on Investors," available at http://www.pbs.org/newshour/bb/business/july-dec11/corzine_11-01.html.

I. Introduction

Dodd-Frank was enacted into law on 21 July 2010. Title VII of Dodd-Frank fundamentally restructures the OTC derivatives markets by removing or altering prior regulatory exemptions for OTC derivatives, including energy derivatives, and authorizes the CFTC to impose a regulatory framework on OTC derivatives similar to that which currently applies to futures.

To implement Dodd-Frank, the CFTC has issued a series of proposed rulemakings,[12] which, if adopted, will have profound effects on the energy derivatives markets. Although Dodd-Frank sets forth a number of statutory requirements, it also grants the CFTC discretion over the degree and nature of energy derivatives regulation. In many cases, the rulemakings as written go beyond the mandatory statutory requirements and will trigger major changes to credit and collateral practices for OTC energy derivatives, rigorous reporting requirements and the need to comply with a number of stringent new business conduct standards for Nonfinancial Energy Companies deemed to be "Swap Dealers."

NERA has been engaged by Hunton & Williams, counsel to the Working Group, a group of firms in the energy industry whose primary business activity is the physical delivery of one or more energy commodities to others, including industrial, commercial and residential consumers. NERA has been asked to evaluate generally the public policy merits of the proposed rulemakings, and specifically to answer the following questions:

– If a Nonfinancial Energy Company that was never viewed as a dealer in derivatives comes within the definition of "Swap Dealer," what might be the incremental overall expenditures by that firm (a) to implement new systems and measures to comply with Dodd-Frank and the applicable CFTC rules promulgated thereunder and (b) to maintain on-going compliance measures following the initial compliance effort?

– If the expansive scope of the Swap Dealer definition includes Nonfinancial Energy Companies, do the costs associated with including these firms as Swap Dealers outweigh the benefits to the swap markets and the financial system of the United States?

[12] The proposed rulemakings to which NERA refers in this report include: 17 CFR Part 1: Definitions Contained In Title VII of Dodd-Frank Wall Street Reform and Consumer Protection Act, 17 CFR Parts 1, 23, and 140: Capital Requirements of Swap Dealers and Major Swap Participants, 17 CFR Parts 1, 150 and 151: Position Limits for Derivatives, 17 CFR Part 3: Designation of a Chief Compliance Officer; Required Compliance Policies; and Annual Report of a Futures Commission Merchant, Swap Dealer, or Major Swap Participant, 17 CFR Parts 15 and 20: Position Reports for Physical Commodity Swaps, 17 CFR Parts 23: Confirmation, Portfolio Reconciliation, and Portfolio Compression Requirements for Swap Dealers and Major Swap Participants, 17 CFR Part 23: Implementation of Conflicts of Interest Policies and Procedures by Swap Dealers and Major Swap Participants, 17 CFR Part 23: Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants, 17 CFR Part 23: Regulations Establishing and Governing the Duties of Swap Dealers and Major Swap Participants, 17 CFR Part 23: Reporting, Recordkeeping and Daily Trading Records Requirements for Swap Dealers and Major Swap Participants, 17 CFR Part 23: Swap Trading Relationship Documentation Requirements for Swap Dealers and Major Swap Participants, 17 CFR Parts 23 and 155: Business Conduct Standards for Swap Dealers and Major Swap Participants With Counterparties, 17 CFR Parts 23 and 190: Protection of Collateral of Counterparties to Uncleared Swaps; Treatment of Securities In a Portfolio Margining Account In a Commodity Broker Bankruptcy, 17 CFR Part 39: End-User Exception to Mandatory Clearing of Swaps, 17 CFR Parts 39 and 140: Process of Review of Swaps for Mandatory Clearing, 17 CFR Part 43: Real-Time Public Reporting of Swap Transaction Data, 17 CFR Part 45: Swap Data Recordkeeping and Reporting Requirements, and 17 CFR Part 46: Swap Data Recordkeeping and Reporting Requirements: Pre-Enactment and Transition Swaps.

In seeking to answer these questions, NERA has undertaken a cost-benefit study of the CFTC's proposed regulatory obligations placed on Swap Dealers. In doing so, NERA adhered to the CFTC's statutory requirements for cost benefit analysis.[13]

This report describes the analyses that NERA has performed with regard to the questions posed above and our overall cost-benefit assessment of the proposed Swap Dealer definition. As required under the CEA, the CFTC itself opined on the costs and benefits resulting from the proposed rulemakings at the time they were published. NERA contrasts its findings with those of the CFTC.

- **Section II** presents data and analysis on the costs that existing Nonfinancial Energy Companies will incur in order to comply with the proposed rulemaking;

- **Section III** examines the cost-benefit analyses put forth by the CFTC to date; and

- **Section IV** examines the potential benefits associated with the proposed rulemakings, including any potential reduction in systemic risk as well as the incremental effects of the proposed rulemakings on price discovery, liquidity, market efficiency, competitiveness and integrity within the OTC energy derivatives markets.

[13] The CFTC is bound by the Commodity Exchange Act ("CEA") to consider the costs and benefits when defining its regulations. Section 15(a) requires that the costs and benefits be evaluated in light of five broad areas of market and public concern:

(1) protection of market participants and the public;

(2) efficiency, competitiveness, and financial integrity of futures markets;

(3) price discovery;

(4) sound risk management practices; and

(5) other public interest considerations.

II. Compliance Costs for Existing Nonfinancial Energy Companies

In order to assess the incremental compliance costs, NERA conducted a survey of a number of the Working Group's members, all of whom are Nonfinancial Energy Companies that could be captured under the CFTC's broad definition of "Swap Dealer." NERA identified key areas in the proposed rulemakings that could trigger an incremental cost for an existing Nonfinancial Energy Company. NERA then designed a set of cost matrices for the Working Group members to complete anonymously. The matrices provide for a detailed backcasting of margin and capital requirements, as well as an analysis of future costs associated with recordkeeping and reporting and business conduct infrastructure. A detailed discussion of NERA's analysis can be found in **Appendix A.**

NERA provided the following guidelines for filling in the survey:

- **Focus on *incremental* costs.** A proper cost-benefit study of the proposed rulemakings must focus on weighing the *incremental* compliance costs against the *incremental* benefits that are likely to accrue. Hence, we requested that all cost data be presented on an incremental basis or in such a fashion that would permit NERA to determine the amount of incremental cost.

- **Reliance on actual data where possible.** In most cases, the data we sought from the Working Group members were actual, historical figures. In those instances where the actual, historic data clearly do not accurately represent the forward-looking costs, we asked the Working Group members to provide projections.

- **Initial setup versus ongoing costs.** The cost matrices distinguish between initial set-up costs and ongoing compliance costs. We elected to do this in order to distinguish one-time expenditures from those that would recur annually.

- **Taxes.** NERA asked the Working Group members to present their cost data on a pre-tax basis as the CFTC's estimates are pre-tax. All values herein are therefore presented on a pre-tax basis.

- **Inflation / Time Value of Money.** NERA asked the Working Group members to present their cost data as they were incurred in the year that they were incurred (or as they are expected to be incurred for projections). This assured that any adjustments to account for inflation and/or the time value of money would be made by NERA subsequent to the collection of data using a consistent set of assumptions.

Comparison of Cost Estimations
Resulting from CFTC's Proposed Rules for Implementation of Dodd-Frank
CFTC Analysis[1] Compared to NERA Analysis[2]

		NERA	
	CFTC[14]	**Annual**	**Present-value**
Annual Carrying Cost of Margin[3]	none quantified	$22,582,692	$152,562,295
Annual Carrying Cost of Capital Required[4]	none quantified	35,745,115	203,883,669
Reporting & Recordkeeping, Initial Set-up[5]	none quantified	8,912,043	8,912,043
Reporting & Recordkeeping, Ongoing[5]	$971,200	1,745,386	11,791,335
Business Conduct Infrastructure, Initial Set-up[5]	none quantified	1,148,371	1,148,371
Business Conduct Infrastructure, Ongoing[5]	$1,322,277	1,426,195	9,634,971
Total	**$2,293,477**	**$71,559,802**	**$387,932,684**

Notes:

1 In only two instances did the Commission include dollar cost estimates in their Cost-Benefit analysis. In all other cases, cost estimates were taken directly from those included in the Paperwork Reduction Act.

2 Based on survey responses for eight firms.

3 Net Carrying Cost Rate for Margin is equal to 9.59%, calculated as the pre-tax Weighted-Average Cost of Capital (13.08%) less pre-tax income earned on margin posted (3.49%).

4 Net Carrying Cost Rate for Capital is equal to 16.13%, calculated as the pre-tax Cost of Equity (19.62%) less pre-tax income earned on capital held for regulatory purposes (3.49%).

5 Costs are reported on a pre-tax basis. NERA's costs address both initial set-up and ongoing costs. The CFTC in general does not account for set-up costs.

As illustrated in the above table, the CFTC has understated the cost that Nonfinancial Energy Companies will face to comply with requirements imposed on Swap Dealers by a factor of sixteen in the first year of compliance without accounting for any potential capital requirements.

On a present-value basis, compliance costs total approximately $184 million for each Nonfinancial Energy Company that is regulated as a Swap Dealer without accounting for any potential capital costs[15] and nearly $390 million if a stand-alone swap dealing entity is created within a larger Nonfinancial Energy Company.[16] $390 million is more than the Department of Energy's estimate of the cost to

14 The CFTC's cost estimates are discussed at length in Section IV.

15 NERA has chosen to present costs both exclusive and inclusive of capital-related costs as the degree to which capital requirements impose an incremental cost is heavily dependant on an entity's structure while all other costs are likely to be incremental.

16 NERA notes that these costs are likely to be lower bounds because they do not consider any robustness assumptions such as a higher interest rate environment, higher commodity prices or tighter credit markets. Interest rates, corporate debt yields and borrowing costs are all at historic low levels. If those factors move away from such levels, Nonfinancial Energy Companies will face higher costs of compliance with Swap Dealer requirements than the estimates NERA presents in this paper.

construct a 300MW combined cycle power plant, a 170 MW wind farm or 85MW in solar power generation. [17]

A. Margin Costs

NERA estimated that the average amount of margin posted by Nonfinancial Energy Companies regulated as Swap Dealers would be approximately $235 million. The carrying costs of that margin would be $23 million a year. Under the CFTC's current definition, NERA assumes that there will be approximately twenty-six Nonfinancial Energy Company Swap Dealers.[18] If each of these firms were regulated as a Swap Dealer, that could result in over $6.1 billion of incremental margin being posted. The annual cost of posting this margin would be approximately $587 million. with a present-value cost of $4 billion.

B. Capital Costs

Based on NERA's analysis, the regulatory capital requirement for a Nonfinancial Energy Company designated as a Swap Dealer in 2010 would have been on average $222 million. A Swap Dealer that already holds sufficient capital to meet this requirement likely would not experience any incremental cost.

However, the proposed rules may force many Nonfinancial Energy Companies designated as Swap Dealers, whether expressly or in order to limit the impact of regulation on the rest of the enterprise, to establish a stand-alone Swap Dealer under the same corporate parent.[19] In that event, NERA estimates the net annual cost of carrying that regulatory capital to be $36 million, which captures the cost of raising equity in capital markets less the pre-tax returns generated from the equity capital held for regulatory purposes. The present-value of costs associated with carrying this incremental capital would be approximately $204 million.

Even if a Nonfinancial Energy Company currently has a stand-alone entity that is captured by the definition of "Swap Dealer," a significant portion of the costs associated with the proposed capital rules will likely be incremental. Such entities often, under current market practices, rely upon guarantees from very creditworthy parents or affiliates. Since the proposed capital rules do not allow for the use of a guarantee as regulatory capital, current stand-alone entities captured by the definition of "Swap Dealer" will likely face incremental capital costs.

C. Business Conduct, Reporting and Recordkeeping Requirements

NERA's detailed review of the proposed rules, as set forth in Appendix A, and the Working Group's data identified necessary major changes to trading infrastructure and staffing that will trigger significant incremental costs for Nonfinancial Energy Companies designated as Swap Dealers. The estimated average costs associated with business conduct standards were as follows: an average annual cost of $1.4 million per firm plus an initial average set-up cost of $1.1 million per firm. The average estimated reporting and recordkeeping related costs were an annual on-going cost of $1.7 million per firm and an initial average set-up cost of $8.9 million per firm. On a present-value basis, the cost of complying with

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[17] See U.S. Energy Information Administration, *Assumptions to the Annual Energy Outlook 2011*, at page 5. This shows a conventional combined cycle generator at $921 per installed kW (2009 dollars). Available at http://www.eia.gov/forecasts/aeo/assumptions/pdf/electricity.pdf.

[18] See [note 7] *supra* for the basis of NERA's estimate.

[19] Note that the cost estimates presented in this report are exclusive of any capital or legal fees that would be associated with establishing a stand-alone Swap Dealer under a corporate parent.

the business conduct and reporting and record keeping requirements of a Swap Dealer totals approximately $31 million for each Nonfinancial Energy Company regulated as a Swap Dealer.

III. Assessment of Potential Costs Set Forth in CFTC Cost-Benefit Analyses

The CFTC is bound by Section 15(a) of the CEA to consider the relevant costs and benefits when developing its regulations.[20] A key question is therefore whether the CFTC engaged in an adequate analysis given its statutory responsibilities.[21]

NERA finds that the cost-benefit analyses subsumed within the CFTC's proposed rulemakings suffer from three primary flaws. First, they lack evidence on the costs of compliance to market participants. Second, where evidence on costs is provided, the analyses tend to greatly understate the true costs many Nonfinancial Energy Companies will face. Third, the analyses rely on presumed benefits that are speculative and unlikely to be realized.

A. Lack of Evidence on Compliance and Regulatory Costs

Each proposed rulemaking issued by the CFTC under Dodd-Frank contains a section entitled "Cost-Benefit Analysis." With few exceptions, the cost-benefit sections of the rulemakings do not include any quantitative estimates of compliance costs and regulatory costs. However, the rulemakings often include cost estimates within the required Paperwork Reduction Act ("PRA") section, although these estimates are generally not explicitly discussed by the Commission in the Cost-Benefit Analysis.[22] The table below summarizes the costs set forth by the CFTC in the proposed rulemakings:

[20] The Commission states in its proposed rulemakings: that it "could in its discretion determine that, notwithstanding its costs, a particular rule is necessary or appropriate to protect the public interest or to effectuate any of the provisions or accomplish any of the purposes of the CEA." See, for example, 17 CFR Parts 1, 23, and 140: Capital Requirements of Swap Dealers and Major Swap Participants.

[21] In this regard, the Inspector General conducted two investigations into the cost-benefit analyses performed by the CFTC in connection with the development of the proposed rulemakings under Dodd-Frank, culminating in two Reports of Investigation, dated April 15, 2011 and June 13, 2011 respectively. In these reports, the Inspector General found the CFTC's process to be wanting in sufficient input from the Office of the Chief Economist, and characterized this as "odd for an agency that regularly engages in economic analysis." The Inspector General's investigation found that "the Office of General Counsel appeared to have the greater ―say in the proposed cost-benefit analyses, and appeared to rely heavily on an historic (and somewhat stripped down) analytical approach."

In its April Report, the Inspector General observes that "a more robust process was clearly permitted under the cost-benefit guidance issued by the Office of General Counsel and the Office of Chief Economist in September 2010, and recommended such an approach to cost-benefit analyses, with greater input from the Office of Chief Economist." In May 2011, new guidelines were issued to assure that the Office of Chief Economist "will have a staff person on each rulemaking team, who will provide quantitative and qualitative input with respect to the costs and benefits of the final rulemaking, who should employ price theory economics or similar methodology to assess the costs and benefits of a rulemaking and who will review each draft cost-benefit discussion."

[22] In only two instances did the Commission include dollar cost estimates in their Cost-Benefit analysis (Regulations Establishing and Governing the Duties of Swap Dealers and Major Swap Participants, and Designation of a Chief Compliance Officer; Required Compliance Policies; and Annual Report of a Futures Commission Merchant, Swap Dealer, or Major Swap Participant). These cost estimates were taken directly from those included in the Paperwork Reduction Act.

CFTC Rulemaking	CFTC Cost Assessment (Per Year Per Respondent)	Section in Proposed Rulemaking
Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants	No mention of quantified cost. Recognizes concept of "opportunity costs" due to immobility of funds.	Cost/Benefit Assessment
Capital Requirements of Swap Dealers and Major Swap Participants	No mention of quantified cost. Recognizes concept of "opportunity costs" due to immobility of funds.	Cost/Benefit Assessment
Protection of Collateral of Counterparties to Uncleared Swaps	$1,333 [23]	Paperwork Reduction Act Disclosures
Confirmation, Portfolio Reconciliation, and Portfolio Compression Requirements for Swap Dealers and Major Swap Participants	$1,282,250	Paperwork Reduction Act Disclosures
Business Conduct Standards for Swap Dealers and Major Swap Participants With Counterparties	No mention of quantified cost. Commission states that "adhering to the new requirements under the proposed rules will not be unduly burdensome. Indeed, the proposed rules, in part, reflect existing regulatory requirements in other markets as well as current industry practices in the swaps market."	Cost/Benefit Assessment
End-User Exception to Mandatory Clearing of Swaps	$194 [24]	Paperwork Reduction Act Disclosures
Swap Data Recordkeeping and Reporting Requirements: Pre-Enactment and Transition Swaps	$6,400	Paperwork Reduction Act Disclosures
Swap Trading Relationship Documentation Requirements for Swap Dealers and Major Swap Participants	$312,800 [25]	Paperwork Reduction Act Disclosures
Reporting, Recordkeeping and Daily Trading Records Requirements for Swap Dealers and Major Swap Participants	Quantifies cost of $209,600, yet explains that compliance cost "would be minimal because the information and data required to be recorded is information and data a prudent Swap Dealer or Major Swap Participant would already maintain during the ordinary course of its business."	Paperwork Reduction Act Disclosures

[23] This estimate reflects the CFTC's estimate of time committed for firms with two hundred counterparties.

[24] This figure reflects the midpoint in the Commission's estimated range of 167 hours to 1,000 hours for the entire market.

[25] Includes $2,400 initial cost.

CFTC Rulemaking	CFTC Cost Assessment (Per Year Per Respondent)	Section in Proposed Rulemaking
Swap Data Recordkeeping and Reporting Requirements	$209,400	Paperwork Reduction Act Disclosures
Real-Time Public Reporting of Swap Transaction Data	$233,000[26]	Paperwork Reduction Act Disclosures
Implementation of Conflicts of Interest Policies and Procedures by Swap Dealers and Major Swap Participants	$4,450	Paperwork Reduction Act Disclosures
Position Limits for Derivatives	Quantifies cost of § 151.6 affecting one-hundred forty firms as $17,143 in annual labor cost per firm and $195,000 per firm in annualized capital and start-up costs and annual total operating and maintenance costs.	Paperwork Reduction Act Disclosures
Process of Review of Swaps for Mandatory Clearing	No mention of quantified cost.	Cost/Benefit Assessment
Position Reports for Physical Commodity Swaps	Quantifies cost of $8,369 in annual labor cost per firm and $46,383 per firm in annualized capital and start-up costs and annual total operating and maintenance costs.	Paperwork Reduction Act Disclosures
Regulations Establishing and Governing the Duties of Swap Dealers and Major Swap Participants	$20,450	Paperwork Reduction Act Disclosures and Cost/Benefit Assessment
Designation of a Chief Compliance Officer; Required Compliance Policies; and Annual Report of a Futures Commission Merchant, Swap Dealer, or Major Swap Participant	$13,600	Paperwork Reduction Act Disclosures and Cost/Benefit Assessment
Total quantified cost cited in Paperwork Reduction Act disclosures[27]	**$2.3 million.**	

The costs estimated by the CFTC in connection with the PRA do not necessarily provide a complete basis for assessing compliance costs for two reasons. First, these estimates often only consider labor hours, not the burdens of infrastructure or technology improvements required to implement the proposed rules. This

[26] This does not include public dissemination requirement, which was described as applicable only to SDRs.

[27] The costs cited in the PRA disclosures for two rulemakings (17 CFR Parts 1, 150 and 151: Position Limits for Derivatives and 17 CFR Parts 15 and 20: Position Reports for Physical Commodity Swaps) do not reflect incremental costs associated with Swap Dealer designation. They are therefore excluded from this list.

leads the CFTC to understate the level of compliance cost. Second, the CFTC's PRA estimates are skewed by the inclusion of very large entities that already hold themselves out as Swap Dealers and have already adopted many of the compliance infrastructure required by the CFTC's proposed rules. The costs from these large Swap Dealers are not representative of the costs that will be incurred by Nonfinancial Energy Companies.

Another reason why the CFTC's analysis is insufficient is that it does not attribute any costs to regulations intended merely to implement Dodd-Frank, though the CFTC has discretion as to how to implement the statute.[28] One of the largest costs Nonfinancial Energy Companies will face is the cost of posting margin for swaps that must be cleared under the proposed rulemakings but are not cleared today, as well as bespoke swaps not currently subject to a full collateralization requirement. The CFTC does not quantify these costs. Because an expansive definition of "Swap Dealer" is not required by statute, the capital and margin costs Nonfinancial Energy Companies will face are directly relevant to the CFTC's rulemakings. In fact, Congress intended to subject entities that were traditionally considered Swap Dealers to regulation; they did not intend for the new regulations to encompass Nonfinancial Energy Companies.[29]

B. Understatement of True Costs

NERA's analysis of the compliance costs indicates order-of-magnitude differences from the CFTC estimates. As elaborated previously in Section II of this report, NERA's estimate of first-year costs to comply with recordkeeping and reporting requirements, business conduct standards is $13.2 million per firm. This compares to the $2.3 million ongoing compliance costs explicitly addressed by the CFTC in its cost-benefit assessments. NERA estimates that the present-value cost of regulatory compliance with the CFTC's proposed rules on business conduct, recordkeeping and reporting will be approximately $31.5 million per firm.

The lower magnitude of the costs considered by the CFTC appears attributable in large part to its assumption that the activities required are ones that Swap Dealers already perform and systems required are largely in place. This assumption appears repeatedly throughout the cost-benefit analyses of the proposed rulemakings.[30] This assumption may be true in the case of large financial institutions traditionally viewed as Swap Dealers, but it is not applicable to Nonfinancial Energy Companies that

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[28] In the June 2011 "*Review of Cost-Benefit Analysis Performed by the CFTC in Connection with Rulemakings Undertaken Pursuant to the Dodd-Frank Act*", the Office of the Inspector General reports: "To the extent the Dodd-Frank Act imposed mandatory requirements, staff uniformly stressed a desire to refrain from expressing mandatory rules in terms of costs and benefits. If Congress required certain conduct, necessarily the determination had been made that the benefits would outweigh costs. We continued to hear similar comments, for instance, staff opined that an analysis of the cost of not requiring segregation would not be appropriate where Congress has required segregation for swaps customer funds. Thus, the costs of various segregation models should be compared to a baseline futures model." (p. 30). http://www.cftc.gov/ucm/groups/public/@aboutcftc/documents /file/oig_investigation_061311.pdf.

[29] Congress recognized the different levels of risk posed by transactions between financial entities and those that involve non-financial entities, as reflected in the non-financial end-user exception to clearing. http://www.sec.gov/about/laws/wallstreetreform-cpa.pdf, Title VII, Subtitle A, Part II , Paragraph (16).

[30] *See* for example the cost-benefit discussion contained in the proposed rules relating to the Reporting, Recordkeeping, and Daily Trading Records Requirements for Swap Dealers and Major Swap Participants, where the Commission states "[costs] would be minimal because the information and data required to be recorded is information and data a prudent Swap Dealer or Major Swap Participant would already maintain during the ordinary course of its business."

transact swaps to manage commercial risk and have not traditionally been viewed or regulated as Swap Dealers.

Based on NERA's analysis, Nonfinancial Energy Companies have traditionally acted as counterparties to each other rather than acting as Swap Dealers to customers seeking access to the swaps market. As a consequence, much of the data and record keeping mandated under the CFTC's proposed rules would require significant incremental investment on the part of Nonfinancial Energy Companies.

C. Margin and Capital

The CFTC's cost-benefit analysis does not include a quantification of the costs of posting margin and retaining regulatory capital. When considering the costs and benefits of the proposed Swap Dealer definition, it is imperative to understand the size of the incremental margin and capital costs that Nonfinancial Energy Companies will face if captured by a broad definition of "Swap Dealer." Swap Dealer capital and margin requirements are mandated by Dodd-Frank. However, the CFTC has discretion in determining to whom those requirements apply as well as the scope and form of these requirements. As NERA illustrates, the cost of posting margin and providing incremental capital is non-trivial for Nonfinancial Energy Companies. The combined average annual cost of margin and capital are approximately $58 million per year with a present-value cost of approximately $356 million.

The proposed margin requirements for uncleared OTC swaps – coupled with the potential requirement that a significant share of currently uncleared swaps be cleared in the future – will pose significant costs and provide little incremental benefit relative to the *status quo*. The *status quo* practice of developing mutually-agreeable margin terms and relying on a mixture of unsecured credit lines and liquid security is a reasonable means of collateralizing or otherwise securing exposures in the uncleared OTC energy swap markets. Furthermore, the widespread use of standardized master agreements assures that market participants rely on common terms; this enhances the liquidity of the uncleared products. While the CFTC presumes that more stringent margin requirements would lessen the consequences of counterparty default, the apparent benefits of doing so are negligible.

By eliminating a firm's flexibility to choose whether and how much to collateralize swaps and making it more costly to utilize uncleared swaps, the margin rules will likely force more swap transactions onto clearinghouses, which in turn are guaranteed by clearing member futures commission merchants. This increases systemic risk by concentrating risk in the clearinghouses and exposing firms to the balance sheets of financial entities.[31] Further, as NERA's analysis demonstrates, there are direct and indirect costs of more stringent margin requirements. The direct costs are detailed above. Potential indirect costs include the risk of potential exit from the market by Nonfinancial Energy Companies and the barrier to entry that high regulatory compliance costs will pose. These factors lead to less liquidity, increased market concentration and higher consumer prices. They also degrade price discovery and the efficient allocation of resources.

[31] See Craig Pirrong, "The Inefficiency of Clearing Mandates," in *Policy Analysis*, July 21, 2010, Pirrong argues that dealers have better information on price and balance sheet risks and are better able to efficiently price default risks than clearinghouses. Clearinghouses' use of collateral to control moral hazard is costly and results in greater cash flow volatility and cash flow mismatches (p. 4).

IV. Assessment of Potential Benefits Set Forth in the CFTC's Cost-Benefit Analysis

In order to evaluate the potential benefits of the proposed rulemakings, NERA sought to determine whether the proposed rulemakings advance the stated goals of the CFTC and the general objectives of Dodd-Frank. The CFTC, in issuing the proposed rules, argues that the rules will reduce risk, increase transparency and improve market integrity.[32] The CFTC believes that an increase in transparency will lead to greater liquidity and lower hedging costs for users of financial energy swaps. Congress intended that Dodd-Frank reduce excessive leverage in the financial system, reduce systemic risk, increase market transparency and enhance consumer protections.[33] NERA therefore evaluates the degree to which the proposed regulations advance these goals.

A. Liquidity and Clearinghouses and Futures Exchanges

The CFTC cites as a benefit the fact that its proposed rules will "facilitate central trading and clearing."[34] As a public policy matter, the CFTC assumes that central trading and clearing will somehow bring liquidity to otherwise less liquid energy derivatives. NERA has examined the experience with clearing and exchange trading for energy derivatives and finds that this presumption is not supported by market evidence.

NERA examined the Henry Hub Natural Gas Future that is widely considered one of the most liquid energy futures contracts available. We obtained from NYMEX the minute-by-minute tick data for this futures contract and analyzed the bid and ask entries appearing in that tick data during a portion of 2009. While we found fairly narrow differences between bid prices and ask prices for contracts that were near maturity, we found wider differences between bids and asks for contracts with longer-dated maturities. This data indicates that, although liquid for short-term contracts, the transparency associated with the Henry Hub futures contract does not guarantee liquidity and low hedge costs for longer-dated contracts (see the chart below).

Further, lower observed levels of liquidity are not limited to long-dated contracts; many cleared and exchange-traded products do not exhibit high levels of liquidity even for short-dated contracts. Like any other firm, derivatives exchanges compete for business and are always seeking ways to expand their product offering. Following reforms in the structure of the Pennsylvania-New Jersey-Maryland Interconnection (PJM) and other regional electric markets in the mid-1990s, NYMEX introduced a host of electricity futures contracts, aimed at luring volumes from the over-the-counter market. Those contracts were ultimately delisted in 2002. NYMEX's decision was attributed to "lack of interest" in

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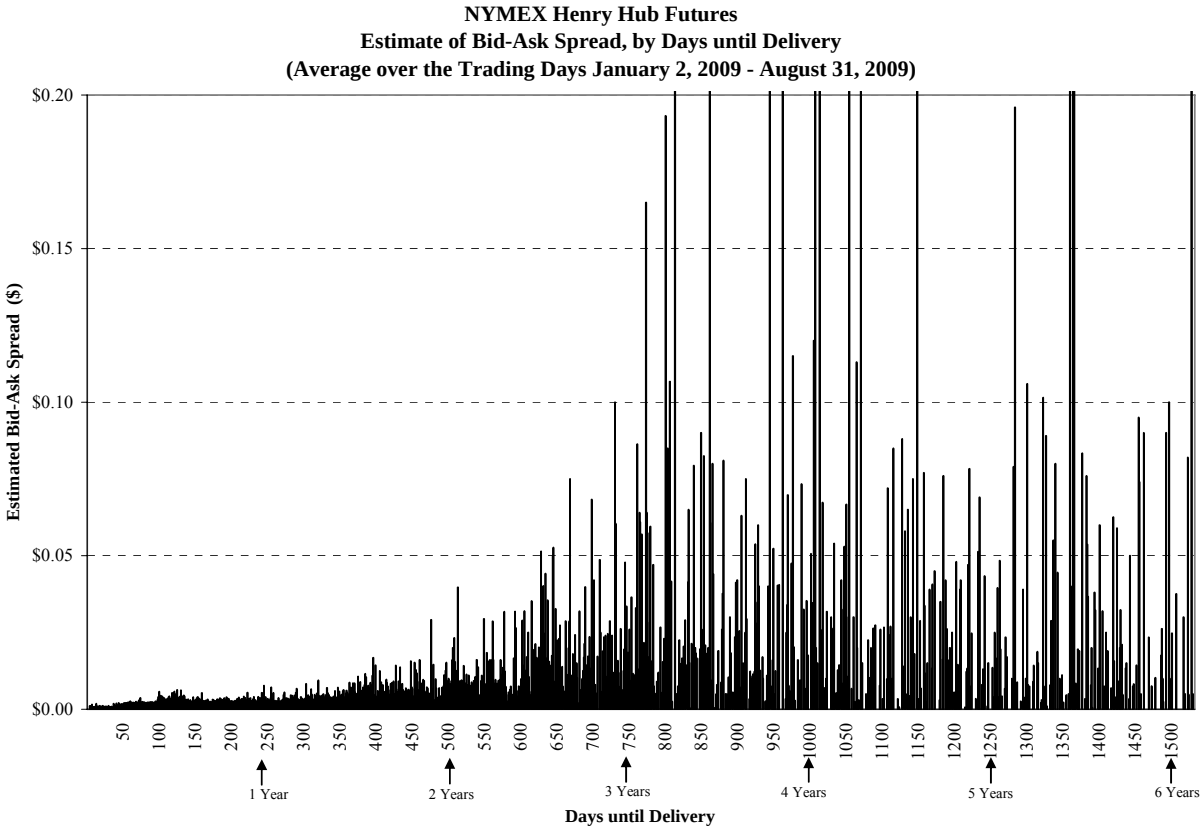
[32] See, for example, Testimony of Gary Gensler before the U.S. House Committee on Financial Services. Washington, DC, June 16, 2011. See also the cost-benefit discussion contained in the proposed rulemakings related to Portfolio Reconciliation, and Portfolio Compression Requirements for Swap Dealers and Major Swap Participants; Business Conduct Standards for Swap Dealers and Major Swap Participants With Counterparties; and Reporting, Recordkeeping, and Daily Trading Records Requirements for Swap Dealers and Major Swap Participants.

[33] Financial Stability Oversight Council. *2011 Annual Report,* p. i.

[34] "Commodity Futures Trading Commission; Swap Trading Relationship Documentation Requirements for Swap Dealers and Major Swap Participants; Notice of Proposed Rulemaking," Federal Register, Vol 76, No. 26 (February 8, 2011), p. 6725.

those contracts.[35] NYMEX has since focused its efforts on clearing OTC swaps through the Clearport platform.



There is likely insufficient liquidity in many energy swaps for centralized clearing to be beneficial. In addition, today Nonfinancial Energy Companies, on average, centrally clear 60 percent of their swaps, likely a significant percentage of their swaps that can be cleared.[36] Accordingly, regulating Nonfinancial Energy Companies as Swap Dealers will provide little to no benefit to the market in the form of increased centralized clearing and associated transparency.

B. Reducing Excessive Leverage in the Financial System

Dodd-Frank requires "too-big-to-fail" financial firms to deleverage their swap dealing business activities in order to meet certain capital requirements. Deleveraging, however, is not necessary for Nonfinancial Energy Companies who already maintain large amounts of tangible net equity.

NERA analyzed the debt-to-total-capital ratio for the Working Group members who responded to the survey. We also sought external measures of leverage for the commercial energy industry. Both endeavors led to the conclusion that the commercial energy industry is not excessively levered.[37]

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35 See "NYMEX pulls the plug on electricity futures, relaunch soon," Reuters News, 15 February, 2002.

36 Again, using the Working Group members that submitted responses to NERA as a proxy.

37 See Exhibit 5.

Accordingly, imposing capital requirements on Nonfinancial Energy Companies by regulating them as Swap Dealers will not advance the objective of reducing excessive leverage, since these firms already employ reasonable and prudent financing policies.

C. Reducing Systemic Risk

The reduction of systemic risk in uncleared OTC energy swap markets can only be beneficial if these markets do in fact pose systemic risk. Although Dodd-Frank does not provide a definition of "systemic risk" or guidance as how to measure it, we define "systemic risk" as the likelihood that the failure or impairment of a given firm will have significant repercussions throughout the financial system and the larger economy. Systemic risk typically implies a domino effect, where one party's default triggers a series of other defaults, potentially leading to counterparty contagion and cascading effects. Equally important is the effect of systemic risk on economic activity. Firms that are systemically important, such as too-big-to-fail financial institutions, play a key role in the economy and would be unable to fulfill that role in the event of failure or impairment. An analysis of systemic risk must consider both the likelihood of counterparty contagion and the effects on economic activity given failure or impairment. We address each in turn.

1. Likelihood of counterparty contagion

Whether a given firm's impairment or failure will trigger a domino effect and repercussions throughout the financial system depends in part on its level of interconnectedness. A business is considered to have a low level of interconnectedness if it can easily be separated and spun off to a financially-stable third party when it finds itself in financial distress. The OTC energy derivatives business has routinely seen changes in ownership for trading desks and little interruption to the liquidity of hedges and the efficacy of the markets. Similarly, energy trading entities in distress have successfully shut down their operations without triggering counterparty contagion.[38] The OTC energy derivatives markets have thus exhibited resiliency as the demand for energy hedges never disappears.

Other factors that can influence the likelihood of counterparty contagion are the size of unsecured exposures and the degree of market concentration. Our analysis indicates that the size of the OTC energy derivatives markets is quite small compared to the other OTC markets that Dodd-Frank is designed to regulate. The notional amounts at issue for uncleared energy swaps are less than one half of one percent of the outstanding notional positions in global OTC markets.[39] Further, it is a routine OTC energy industry practice to collateralize exposures that exceed unsecured credit thresholds. Therefore, unsecured exposures are small.

With regards to market concentration, those firms that use financially-settled energy swaps include dozens of entities from the commercial energy industry and the financial sector. Analysis of the energy futures markets has been performed using traditional concentration measures, such as market shares and

[38] Exhibit 6 contains examples of such closures and transfers of ownership. The notion that commercial energy trading risks are limited by the existence of a sufficient equity capital buffer in the financial structure of energy firms seems at odds with the fact that they close down when facing financial difficulties. Let us be clear that some of the closures of trading enterprises cited in Exhibit 6 include situations where the trading entity ran out of capital and although affiliate companies held capital, the affiliate operations had been ring-fenced, meaning the capital was not available to the trading entity. This underscores the complexities of setting capital requirements that may apply across multiple legal entities.

[39] Data retrieved from the Bank of International Settlements. Available at: http://www.bis.org/statistics/derstats.htm. International data used as comparable data for U.S. swap markets is not publicly available.

the Herfindahl–Hirschman concentration index. With regards to energy commodities, these show relatively unconcentrated markets for exchange-traded futures and other cleared derivatives.[40]

While such indices are more difficult to calculate for the OTC energy swap markets, NERA's survey data indicates that many Nonfinancial Energy Companies who transact in cleared derivatives also transact in uncleared swaps. There is also overlap between the traders operating in cash markets and the uncleared swap markets. Taken together, these factors suggest an uncleared OTC energy derivatives market characterized by a large number of participants and robust competition. They also suggest a high level of "substitutability" among counterparties. A lack of substitutability would be a sign of systemic risk.[41]

Further evidence of a lack of concentration in OTC financial energy markets can be found in the competitive bidding process conducted by regulated gas and power distributors. For example, in 2008, the Ameren Illinois utilities[42] issued a Request for Proposals (RFP) seeking to procure financial hedges as part of their power supply risk management program. Ameren's regulator, the Illinois Commerce Commission, oversaw the RFP process and, pursuant to state legislation, was required to make an assessment as to the competitiveness of the process. Following its review of the process and the bids received, the Commission approved the resulting swap transactions, indicating that the process had been competitive and that the prices had been disciplined by competition in the market for uncleared power swaps.

It is noteworthy that the winning bidders in that competitive solicitation were Nonfinancial Energy Companies. The fact that distributors are routinely able to conduct competitive bidding processes for financially-settled energy swaps is a signal that the market is not overly concentrated and is functioning as it should. Moreover, the fact that the Nonfinancial Energy Companies won the RFP with no intermediation from a Swap Dealer indicates the common place nature in which Nonfinancial Energy Companies transact energy swaps between themselves as counterparties with neither party performing the role of a Swap Dealer.

2. Effects on the real economy

Although the role of Nonfinancial Energy Companies in the economy is essential – the economy could not function without a robust supply of energy commodities – the chance that financial distress at one of these firms would impede the physical delivery of energy to consumers is remote. Nonfinancial Energy Companies do go bankrupt. Even still, as the distressed firm's financial dealings work their way through the bankruptcy process, the physical electricity, natural gas, coal and oil continues to flow to end users without interruption.[43] History demonstrates that despite a number of large Nonfinancial Energy Firms

[40] See, for example, "Market Concentration in Futures and Options for Crude Oil and Natural Gas," CME Group, December 2009.

[41] See *De-Mystifying Interconnectedness: Assessing 'Too Interconnected to Fail' and the Fallout from Getting it Wrong*, NERA White Paper, April 23, 2010.

[42] The Ameren Illinois utilities include Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS, and Illinois Power Company d/b/a AmerenIP.

[43] Exhibit 7 lists examples of commercial energy bankruptcies, none of which affected the physical delivery of energy.

filing for bankruptcy, none have caused a systemic risk issue requiring substantial intervention by the government and there was no crisis of physical energy delivery associated with any of the failures.[44]

D. Market Transparency

Market transparency is beneficial to users of OTC energy swaps and to society as a whole. The public policy questions at issue with respect to Nonfinancial Energy Companies relate to whether regulating them as Swap Dealers would bring about incremental change of any significance to the OTC energy markets; and if so, whether they will impose costs on market participants that exceed any incremental benefits.

The benefits of the general market transparency provisions of Dodd-Frank are largely independent of the definition of "Swap Dealer," while being classified as a Swap Dealer imposes an obligation to incur substantial reporting-related costs. All swaps will be reported and prices of almost all swaps will be reported in real-time, regardless if one or both parties to a swap is a Swap Dealer. Therefore, NERA finds that there is no incremental benefit for price discovery arising from deeming Nonfinancial Energy Companies as Swap Dealers. Therefore, to satisfy its statutory requirement under Section 15 of the CEA, the CFTC must rely on other benefits to outweigh the considerable costs associated with regulating Nonfinancial Energy Companies as Swap Dealers.

E. Customer Protections and Unintended Consequences

The CFTC's proposed rulemakings contain complex business conduct and other standards designed to protect customers. NERA's review of the rules suggests that ultimately customers will be harmed, not protected, by lower levels of liquidity, greater volatility and increased hedge costs due to unintended consequences of the proposed rulemakings.

By limiting the use of OTC swaps to Eligible Contract Participants, Congress recognized that the swap markets should only be open to those entities sophisticated enough to act as a counterparty to a swap. Congress put in place reasonable basic protections for counterparties under Dodd-Frank.[45] The additional requirements set forth by the CFTC provide little to no added benefit to market participants and impose substantial transaction-level costs. The proposed rulemakings create indirect costs above and beyond the direct costs elaborated in Section II above.

NERA's analysis suggests that compliance costs would wipe out profitability for many Nonfinancial Energy Companies regulated as Swap Dealers. (See Exhibit 4.) This means that the regulations will likely trigger exit by some Nonfinancial Energy Companies from the role of active traders in energy derivatives markets. Research demonstrates that Nonfinancial Energy Companies are essential contributors to price discovery through their hedging and trading.[46] Their exit from energy swap markets

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[44] See "Systemic Risk and the Financial Crisis: A Primer," *Federal Reserve Bank of St. Louis Review*, September/October 2009. In this study the St. Louis Fed identifies three reasons why non-financial firms (such as Nonfinancial Energy Companies) do not likely pose systemic risk, while financial firms do. Those reasons are a lack of interconnectedness, low levels of leverage and the absence of a mismatch between the term of their funding sources and their assets (*e.g.,* short-term liabilities coupled with long-term assets).

[45] In the one instance where Congress felt a class of entities, "Special Entities," needed additional protections they proscribed a specific set of requirements that apply only to transactions with Special Entities. The term Special Entity is defined in Section 4s(h) of the CEA to include entities such as municipalities and endowments.

[46] See "Price Dynamics, Price Discovery, and Large Futures Trader Interactions in the Energy Complex," Commodity Futures Trading Commission, Office of the Chief Economist, April 2005.

would be harmful to the markets and to the prices paid by users of such swaps and would compromise market integrity, not increase it as stated by the CFTC.[47]

In addition, swap users may look to substitutes for uncleared financial swaps, such as physically-settled swaps or exchange-traded futures. However, these apparent substitutes may not be appropriate for their hedging needs. As a result, some needs may go unserved, or they may be served at higher prices.

Ultimately, exit by Nonfinancial Energy Companies will limit the number of active traders of financial swaps in the uncleared OTC energy markets and will likely concentrate the market among financial dealers, many that have less experience in the underlying physical commodities than the Nonfinancial Energy Companies. Concentration is likely to lead to higher prices, more volatility and less efficient markets. Based on NERA's analysis, the benefits resulting from regulating Nonfinancial Energy Companies as Swap Dealers appear minimal at best. More importantly, they do not appear to come close to offsetting the significant costs imposed on the energy swaps market and Nonfinancial Energy Companies by regulating them as Swap Dealers.

F. Summary

The results of the cost-benefit analysis performed by NERA indicate that the CFTC did not assess significant sources of incremental costs in their proposed rulemakings. Nonfinancial Energy Companies regulated as Swap Dealers will face significant compliance costs. These costs will be borne by entities that have not held themselves out to be Swap Dealers and who may be tangentially engaged in swap dealing under the broad proposed definition, but are primarily physical energy companies. Incremental benefits from regulating Nonfinancial Energy Companies as Swap Dealers, such as the increased collateralization of risk exposures, do not appear to be justified by the costs. Further, many purported benefits that the CFTC attributes to the regulations, such as reductions in systemic risk, increases in liquidity and lower hedge costs, are unlikely to materialize by regulating Nonfinancial Energy Companies as Swap Dealers. Instead, the high cost of compliance with Swap Dealer regulations will encourage exit by firms that currently provide valuable information and price discovery to these markets and will deter new entrants. This will lower the level of competition in CFTC-regulated energy swap markets and harm energy consumers by widening bid-ask spreads and reducing liquidity.

[47] See, for example, Testimony of Gary Gensler before the U.S. House Committee on Financial Services. Washington, DC, June 16, 2011. See also the cost-benefit discussion contained in the proposed rulemakings related to Portfolio Reconciliation, and Portfolio Compression Requirements for Swap Dealers and Major Swap Participants; Business Conduct Standards for Swap Dealers and Major Swap Participants With Counterparties; and Reporting, Recordkeeping, and Daily Trading Records Requirements for Swap Dealers and Major Swap Participants.

Appendix A

This appendix provides a detailed description of our analysis with regards to the incremental costs potentially imposed on Nonfinancial Energy Companies regulated as Swap Dealers.

A. Margin Costs

A key requirement of Dodd-Frank is for initial and variation margin to be posted and held on uncleared swaps. The CFTC's proposed rulemaking, "Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants," sets forth the requirements. Swap Dealers must post *and* require the posting of initial and variation margin for uncleared swaps with Swap Dealers and Major Swap Participants. Swap Dealers must also require the posting of initial and variation margin for uncleared swaps with financial entities. Uncleared swaps with non-financial entities that are also not Swap Dealers or Major Swap Participants do not have these margin requirements.

For Nonfinancial Energy Companies, a share of swaps that are not cleared today will need to be cleared under the proposed rulemakings, and most bespoke uncleared swaps that are not currently fully collateralized will be required to be fully collateralized. Hence, the initial margin and variation margin posted for those swaps represent an important incremental cost arising from the proposed rulemakings.

The CFTC's cost-benefit analysis does not include a quantification of the costs of posting margin. Swap Dealer capital and margin requirements are mandated by Dodd-Frank. However, as stated previously, the CFTC has discretion in setting the margin and capital requirements as well as the scope of the definition of "Swap Dealer." When considering the costs and benefits of the proposed Swap Dealer definition, it is imperative to understand the size of the incremental margin and capital costs that Nonfinancial Energy Companies will face if captured by a broad definition of "Swap Dealer."[48]

To quantify the potential margin impacts on Nonfinancial Energy Companies, NERA relies on a backcasting analysis drawing from actual trading records of Working Group members.

1. Initial Margin

The proposed rulemaking on margin requirements for uncleared swaps requires the use of either a risk-based model meeting certain characteristics or an alternative method. Since the Working Group members all use and have access to value-at-risk (VaR) models, NERA has chosen to approximate the initial margin using a VaR model that meets the proposed standard of covering at least 99 percent of price changes by product and portfolio over a 10-day liquidation time horizon. Such a model would be consistent with the proposed margin rules. However, the proposed rules may prevent Nonfinancial Energy Companies deemed Swap Dealers from using any model for regulatory purposes.

Initial margin will also be required for swaps that will be subject to mandatory clearing, but are not currently cleared. Those swaps will face initial margin costs specified by the clearing organization for each type of swap transaction. For the purposes of modeling the cost of margin for such swaps, NERA relied upon the VaR models of the Working Group members responding to the survey. In some cases, the VaR assumptions used may differ slightly from those relied upon by the clearing organizations. For

[48] Other costs that NERA did not quantify, but which are a direct consequence of Nonfinancial Energy Companies being regulated as Swap Dealers, are the costs associated with an entity being unable to avail itself of the end user exception from centralized clearing and exchange execution.

example, NERA requested that the Working Group members calculate VaR using a 99 percent confidence level and a 10-day liquidation horizon. Some clearing organizations will rely on shorter liquidation horizons and/or higher levels of confidence, depending on the nature of the derivative. There may also be differences in the volatility and other modeling assumptions used to determine initial margin. Irrespective of any potential difference in modeling, the VaR-based estimates relied on by NERA provide a robust indicator of the size of initial margin costs for swaps that will be subject to mandatory clearing under the proposed rules.

For all affected swaps, the survey indicates that initial margin would have been $51 million per firm, on average, given the swap positions that were held by the surveyed firms during 2010. The CFTC's proposed rule does permit a portfolio-based reduction in initial margin. Therefore, if the Nonfinancial Energy Companies were able to demonstrate sufficient portfolio offsets, this value would be reduced.

Note that for firms without access to a model that is permitted under the proposed rules, the alternative method outlined by the CFTC would be used, imposing a significantly greater cost on the firm. This method bases the margin requirement on that of related cleared products and limits the ability to offset risks to 50 percent of the amount required absent the reduction.[49]

2. Variation Margin

Variation margin is collateral for the mark-to-market value of the swap. The Commission's proposal for variation margin does not include any guidelines for the calculation. NERA has estimated the variation margin that Swap Dealers would have to post using the mark-to-market values of the swaps held with a given counterparty. The survey results indicate that the total net variation margin requirement is on average $184 million per firm. As the mark-to-market values are calculated net of any collateral posted or received, the full value constitutes incremental variation margin attributable as a cost to the proposed rulemaking. NERA calculated variation margin for bespoke swaps that will remain uncleared and for those swaps that will be forced into mandatory clearing.

NERA notes that their estimated variation margin cost reflects the actual 2010 prices that triggered the mark-to-market exposures on the Nonfinancial Energy Company's books. An alternative evolution of energy prices could have yielded higher or lower costs; future energy prices could likewise deviate. In turn, the cost of complying with the variation margin requirements would change. On balance, however, NERA believes the 2010 backcasting provides a reasonable indicator of the order of magnitude of the costs associated with variation margin requirements.

3. Collateral Segregation Costs

The proposed rulemaking "Protection of Collateral of Counterparties to Uncleared Swaps; Treatment of Securities in a Portfolio Margining Account In a Commodity Broker Bankruptcy" as well as the proposed margin rules contain provisions for the treatment of collateral. Dealer-to-dealer initial margin must be segregated. Such collateral must be held by a third party and cannot be used for other purposes. Doing so essentially removes the use of the collateral from the economy and productive use. On top of removing the margin from use, the collateral segregation requirement will impose administrative costs of setting up accounts and agreements governing the collateral.

[49] § 23.155(c)(3).

4. Estimated Costs

The annual cost of carrying margin is the difference between the Working Group member's *assumed* weighted-average cost of capital and the interest that would accrue to that member on collateral posted. This latter value is limited by restrictions governing the types of acceptable collateral and the investments in which cash collateral may be placed. Although NERA recognizes that each individual Working Group member has a firm-specific capital structure and firm-specific costs of equity and debt, NERA believes it is most appropriate to use a single estimate of the weighted-average cost of capital for Nonfinancial Energy Companies in order to assure consistent treatment across firms in this study. NERA analyzed multiple scenarios to assure that the conclusions are robust to alternative costs of capital assumptions that may apply to entities with more business risk or more financial leverage than that assumed for the study. Exhibit 2 shows the assumptions used for weighted-average cost of capital and for the returns available on margin posted.

To arrive at the costs incurred per year per firm, NERA applies the net carrying cost rate for margin of 9.59 percent to initial margin ($51 million per year per firm) and to the average variation margin ($184 million per year per firm). This yields an average cost of $23 million per year, per firm.

NERA notes that our approach parallels that taken by the Office of the Comptroller of the Currency ("OCC") in its estimation of the incremental margin costs facing market participants under Dodd-Frank.[50] Since both the OCC's study and NERA's study were performed in a period of historically low interest rates, it is important to recognize that the annual costs would be higher if interest rates and/or credit spreads were to rise again.

B. Capital Costs

Dodd-Frank also calls for capital requirements for Swap Dealers and Major Swap Participants. The proposed rulemaking "Capital Requirements of Swap Dealers and Major Swap Participants" delineates these new rules. Each Swap Dealer and Major Swap Participant must have tangible net equity sufficient to cover a market risk and credit risk charge, plus an additional $20 million.[51] Both charges are explained below.

1. Market Risk

The market risk charge varies by product but generally consists of a certain percentage of the net exposure in each product and a certain percentage of the gross exposure in each product. Internal models are allowed to be submitted for Commission approval under the terms described in § 23.103, but the CFTC has said they will not consider models that are not approved by the SEC or bank regulators at this juncture. Therefore, NERA estimates the market risk charge using the alternative method described in § 23.104 for Power, Natural Gas, Oil and Coal swaps. For these swaps, the requirement is 15 percent of the net position and 3 percent of the gross position.[52] The survey indicates that the market risk capital

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[50] See "Unfunded Mandates Reform Act, Impact Analysis for Swaps Margin and Capital Rule," Economics Department of the Office of the Comptroller for the Currency, April 15, 2011. The Economics Department within the OCC estimates that the Prudential Regulators' Proposed Rules will remove over $2 trillion from the economy in the form of initial margin alone, with an associated annual cost of $20 billion per 1 percent of potential return on such margin.[50] These results of our analysis make sense in light of the relative size of the uncleared energy swap markets *vis-á-vis* the other uncleared swap markets.

[51] § 23.101.

[52] § 23.104 (d)(6).

requirement for commodity swaps will be approximately $167 million per Working Group member. NERA notes that the Working Group submitted comments advocating a VaR-based approach to the market risk component of the capital requirements. If adopted, such an approach would significantly reduce this burden and, more importantly, better reflect the actual market risk associated with a Nonfinancial Energy Company's portfolio of swaps.

2. Credit Risk

The credit risk charge on uncleared swaps consists of the counterparty exposure charge and the counterparty concentration charges.

a. Counterparty Exposure Charge

The counterparty exposure charge is described below:

(1) A counterparty exposure charge in an amount equal to the sum of the following:

(i) The net replacement value in the account of each counterparty that is insolvent, in bankruptcy, or that has senior unsecured long-term debt in default; and

(ii) For a counterparty not otherwise described in paragraph (e)(1)(i) of this section, the credit equivalent amount of the Swap Dealer or Major Swap Participant's exposure to the counterparty, minus collateral values as set forth in this section, multiplied by a credit risk factor of 50 percent or a credit risk factor computed under paragraph (e)(1)(iii) of this section, multiplied by 8 percent.[53]

The credit risk factor is 50 percent by default, but under paragraph (e)(1)(iii) Swap Dealers may designate a specific credit risk factor for each counterparty of either 20, 50 or 150 percent. NERA performs the calculation of the credit risk charge using 50 percent as the credit risk factor. To account for the fact that Swap Dealers will apply specific credit risk factors when it results in a lower credit risk charge, NERA performs scenario analyses at the other levels.

The credit equivalent amount for each counterparty is equal to the sum of the current exposure and the potential future exposure. The current exposure is equal to the greater of (1) zero or (2) the net sum of all positive and negative mark-to-market values of over-the-counter swap positions, subject to permitted netting pursuant to a master netting agreement.[54] The potential future exposure for a single over-the-counter position is equal to the notional principal amount of the position multiplied by a conversion factor of 10 to 15 percent depending on the remaining duration. For a counterparty, potential future exposure is equal to the sum of (1) 40 percent of the sum of the individual potential future exposures and (2) 60 percent of sum of the potential future exposures multiplied by the NGR. The NGR, in turn, is equal to the ratio of the net current credit exposure to the gross current credit exposure, where the gross current credit exposure equals the sum of the positive current credit exposures of all individual OTC derivative contracts.[55]

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[53] § 23.104 (e).

[54] § 23.104 (g).

[55] § 23.104 (h).

Our survey found that the average counterparty exposure capital requirement would have been approximately $37 million for 2010.

b. Counterparty Concentration Charge

The second component of the credit risk charge penalizes firms for having large current exposures to counterparties. This charge is equal to the sum of (1) 50 percent of the amount by which the current exposure to any individual counterparty exceeds 5 percent of the Swap Dealer's tangible net equity and (2) 100 percent of the amount by which the aggregate current exposure to all counterparties exceeds 50 percent of the Swap Dealer's tangible net equity.[56] Two of the firms surveyed reported a counterparty concentration charge averaging $5.4 million.

c. Annual Cost of Meeting Capital Requirement

The costs imposed by the new capital requirements may be onerous for some companies. For a Swap Dealer that already holds sufficient capital to meet this requirement, this compliance cost would not be incremental unless the regulations, whether expressly or in order to limit the impact of regulation on the rest of the enterprises swaps activity, compel a company to establish a stand-alone Swap Dealer under the same corporate parent.[57]

Our survey indicates that the average total regulatory capital requirement would be $222 million, which reflects the sum of the credit risk capital requirement, the market risk capital requirement and the additional $20 million required under the proposed rules. To this, NERA applies the net carrying cost rate for capital of 16.13 percent resulting in an average annual cost of $36 million per firm, assuming capital is an incremental cost for a particular Swap Dealer. As shown in Exhibit 2, the net carrying cost rate is the cost of equity (19.62 percent) less returns on capital held for regulatory purposes (3.49 percent).

C. Business Conduct Infrastructure

NERA's cost analysis establishes that the estimates of compliance costs set forth by the CFTC are far below the compliance costs that Nonfinancial Energy Companies designated as Swap Dealers will actually face. The CFTC's estimated costs are not a fair evaluation of the burden to be placed on Nonfinancial Energy Companies designated as Swap Dealers. The CFTC assumes most systems and practices called for in the proposed rules are pre-existing, and thus the associated costs are incremental and therefore negligible to non-existent. In contrast, NERA's detailed review of the proposed rules and the Working Group's data identified necessary major changes to trading infrastructure and staffing that will trigger significant incremental costs for Nonfinancial Energy Companies designated as Swap Dealers.

NERA's survey includes another category of costs that can be broadly described as business conduct infrastructure. This category of costs is created by five separate proposed rulemakings.[58] The survey

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[56] § 23.104 (e)(2).

[57] Note that the cost estimates presented in this report are exclusive of any capital or legal fees that would be associated with establishing a stand-alone Swap Dealer under a corporate parent.

[58] The five proposed rulemakings are as follows: 17 CFR Part 3 – Designation of a Chief Compliance Office, Required Compliance Policies, and Annual Report of a Futures Commission Merchant, Swap Dealer, or Major Swap Participant; 17 CFR Parts 23 and 155 – Business Conduct Standards for Swap Dealers and Major Swap Participants with Counterparties; 17 CFR Part 23 – Implementation of Conflicts of Interest Policies and Procedures by Swap Dealers and Major Swap Participants; 17 CFR Part 23: Swap Trading Relationship Documentation

includes the items from these rulemakings that are, in NERA's opinion, the most likely to impose significant costs. NERA describes each of the items as well as their estimated costs below, where the total average annual cost is $1.4 million per firm with an initial average set-up cost of $1.1 million per firm.

1. Daily Valuation of Positions

Swap Dealers are required under § 23.431(c) to provide counterparties with daily valuations of their positions. NERA has asked the Working Group members to estimate the costs of providing this service to counterparties, and the average response was $260,000.

2. Compliance Plan and Position Limit Monitoring Requirement

In 17 CFR Part 23, the Commission establishes the compliance plan that Swap Dealers should follow, including:

- Establish written policies and procedures designed to monitor for and prevent violations of position limits;
- Convert all swap positions into equivalent futures positions using the Commission's methodology;
- Provide training to all relevant personnel on applicable position limits on an annual basis;
- Document position limit violations;
- Implement an early warning system;
- Monthly tests of position limit procedures;
- Annual audits of Position Limit Procedures; and
- Maintenance of records pursuant to these regulations.

These new standards might include costs related to new software and a large amount of employee time, if not new employees. The member companies have indicated that this new monitoring function will cost $245,000 in initial setup costs and $228,000 in annual costs.

3. Chief Compliance Officer and Staff and Annual Certified Compliance Report

Each Swap Dealer must designate an individual to serve as its chief compliance officer ("CCO").[59] One of the key duties of the CCO is to produce an annual certified compliance report and file it with the

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Requirements for Swap Dealers and Major Swap Participants; and 17 CFR Parts 1, 150, and 151 – Position Limits for Derivatives. Additionally, 17 CFR Part 23 – Confirmation, Portfolio Reconciliation, and Portfolio Compression requirements for Swap Dealers and Major Swap Participants must be considered.

[59] § 3.3 (a).

Commission.[60] The report must describe and assess the Swap Dealer's performance in complying with each of the policies and regulations promulgated by Dodd-Frank. Among the auxiliary costs of this policy are the cost of hiring support staff and the cost of retaining outside counsel. These obligations are expected to be very costly to Nonfinancial Energy Companies, averaging $445,000 in initial setup costs and $760,000 in ongoing annual costs.

4. Audits

Under § 23.600 (e)(2), Swap Dealers are required to maintain risk management programs and audit them quarterly. The proposed rulemakings also require an annual audit of at least 5 percent of a Swap Dealer's swap trading relationship documentation.[61] NERA estimates a cost of $224,000 per annum for this category.

5. Counterparty Reporting / Disclosures

Swap Dealers must provide counterparties with information about the swap under the proposed rulemaking. This information includes the material risks of the swap, the material economic terms of the swap, and the incentives and conflicts of interest that the Swap Dealer may have in connection with the swap. Swap Dealers must also provide scenario analysis on high-risk complex swaps as well as, upon request, provide scenario analysis for swaps not executed on a DCM or SEF.[62] The Working Group members have highlighted legal costs (especially up-front drafting of disclaimers) as being a major component of these costs. NERA estimates $388,000 in initial setup costs and $221,000 in ongoing annual costs for these tasks.

6. Confirmation, Portfolio Reconciliation and Portfolio Compression Requirements for Swap Dealers and Major Swap Participants

Swap Dealers and Major Swap Participants entering into a swap transaction with one another would need to execute a confirmation, at the latest, on the day of trade execution. If dealing with a non-Swap Dealer or Major Swap Participant counterparty, acknowledgement of the transaction must be sent the date of execution, at the latest.[63] Swap Dealers and Major Swap Participants would be required to reconcile their portfolios and agree to terms of the bilateral reconciliation in writing. The frequency of reconciliation required would depend upon the size of the swap portfolio (ranging from daily to quarterly). If the counterparty is another Swap Dealer or Major Swap Participant, discrepancies in valuation must be resolved within a day. If the counterparty is any other type of entity, discrepancies must be resolved in a timely manner.[64] Should reconciliation not be achieved within a day, a record must be kept. Swap Dealers and Major Swap Participants, when dealing with one another as counterparties, must participate in multilateral portfolio compression unless the compression would increase the risk exposure of the

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60 § 3.3 (d) (there appear to be two sections marked as § 3.3 (d), but NERA refers to the one entitled "Annual Report") and § 3.3 (e).

61 § 23.504 (c).

62 § 23.431.

63 § 23.501.

64 § 23.502(a), (b).

Swap Dealer or Major Swap Participant.[65] One Working Group Member estimated that the above requirements would cost $1.4 million annually.

D. Recordkeeping and Reporting

The proposed rulemakings include many new standards for disclosure and recordkeeping.[66] Rather than including all of the requirements from these rulemakings, NERA's survey only includes the items that are expected to have the largest cost impact. NERA describes each of the items, as well as their estimated costs, below where the total average annual cost is $1.7 million per firm with an initial average set-up cost of $8.9 million per firm.

1. Instant Message Retention Costs

Swap Dealers will be required to retain instant messages and tie them to trade IDs. "Swap participants must also make and keep pre-execution trade information, including, at a minimum, records of all oral and written communications provided or received concerning quotes, solicitations, bids, offers, instructions, trading, and prices, that lead to the execution of a swap, whether communicated by telephone, voicemail, facsimile, instant messaging, chat rooms, electronic mail, mobile device or other digital or electronic media." Associated costs include: adding additional staff (if needed), the cost of the hours existing staff will spend on this and the cost of any systems or software required to comply with this requirement. The average initial retention cost is approximately $464,000, with additional annual costs averaging $411,000. Review of IMs by in-house or outside counsel would add additional costs.

2. Phone Call Retention Costs

The proposed rules would require Swap Dealers to record all oral communications that lead to the execution of transactions in a commodity interest or cash commodity. For the survey, NERA asked the respondents to provide the cost of adding additional staff (if needed), the cost of the hours existing staff will spend on this and the cost of any systems or software required to comply with this requirement. For nearly all the members of the working group, the retention of phone calls would require significant upfront infrastructure investments. The average initial investment for the Working Group is approximately $649,000 with additional annual costs around $382,000.[67]

3. Change Management and Training for New Data Entry Obligations

Change management and training would require most working group members to hire additional staff. The average setup cost is $394,000 with ongoing annual costs averaging $92,000.

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[65] § 23.503.

[66] The relevant rulemakings are as follows: 17 CFR Parts 15 and 20: Position Reports for Physical Commodity Swaps; 17 CFR Part 23: Confirmation, Portfolio Reconciliation, and Portfolio Compression Requirements for Swap Dealers and Major Swap Participants; 17 CFR Part 24: Reporting, Recordkeeping, and Daily Trading Records Requirements for Swap Dealers and Major Swap Participants; 17 CFR Part 43: Real-Time Public Reporting of Swap Transaction Data; 17 CFR Part 45: Swap Data Recordkeeping and Reporting Requirements.

[67] Regulations § 1.35 and § 1.31.

4. Trade IDs, Time Stamps and Other New Reporting Requirements

Market participants will be required to ID and time stamp their transactions at various points in time, which are likely to impose some incremental costs in the form of new trading software or staff costs. The initial setup costs for these reporting requirements average $2.8 million. The additional annual costs average $302,000.

5. Existing Data Harmonization with CFTC, Swap Data Repository and Industry Standards

Data harmonization costs include the costs arising from the conversion of data to the new formats required by the CFTC and SDRs. The incremental investments needed to comply with these requirements will trigger costs as high as $1.5 million for a large Swap Dealer with an average of $755,000. Ongoing annual expenses for the Working Group averaged $71,000.

6. Real-Time Trade Data Reporting and Retention

Each swap transaction must be reported in real-time to a real-time disseminator. The frequency with which the member company must do so will vary with the company's designation. NERA makes the assumption that all market participants will need the ability to report transaction data in short order and that Swap Dealers will have to perform this function in approximately 50 percent of trades with other Swap Dealers and 100 percent of trades with end-users. All records must be kept for a five year period. The majority of Working Group respondents will require additional staff to meet this requirement. Assuming all counterparties are Swap Dealers, Working Group Members will incur an average of $293,000 annually with average infrastructure investments of $3.3 million.[68]

7. Large Trader Reporting

Swap Dealers must report their positions in many commodity-linked swaps. The CFTC has set a reporting threshold of 50 or more swaps or swaptions that are economically equivalent to a futures contract.

Position reporting costs were reported for five of the eight respondents, averaging $780,000 for initial setup charges, and $126,000 in ongoing annual costs.

8. Counterparty Confirmation and Acknowledgement Requirements

Swap Dealers will be required to provide a formal acknowledgement of the terms of swaps prior to execution and a confirmation of such terms immediately after execution. Confirmation will be between the counterparties, often with the assistance of a third-party confirmation service provider. A confirmation is defined as, "the full, signed, legal confirmation of all the terms of the swap."[69] The costs due to the counterparty confirmation come primarily from the initial training. They are $235,000 and annual operating costs $307,000.

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[68] § 1.31 and § 1.35 of Commission Regulations. 75 FR 76578.

[69] 75 FR 76581. § 4r(a)(3).

9. Historic Transaction Reporting

Swap Dealers will be required to report pre-enactment and transition swaps in existence on or after April 25, 2011. They will need to report detailed data either to a swap data repository or to the Commission if no swap data repository is available for the particular asset class. For historical swaps that were in existence as of the date of the enactment of Dodd-Frank but have expired or been terminated, the counterparty would be required to provide the records as previously formatted. For most working group members, reporting historical data will require a one-time cost of approximately $241,000.[70]

The recordkeeping and reporting costs will increase significantly with the proposed rulemakings. While the costs vary from party to party, depending on the compatibility of their current software, the average initial investment is estimated to be $8.9 million with annual operating costs of $1.7 million.

[70] 17 CFR Part 46 at 22837. § 4r.

Exhibit 1
Matrix I - Margin

	Limited Designation as a Swap Dealer							Full Designation as a Swap Dealer						
	End of Q1 2010 Value	End of Q2 2010 Value	End of Q3 2010 Value	End of Q4 2010 Value	Historic Proxy Cost / Annual Value	Projection - Ongoing Annual Costs/Value	Explanatory Notes (Please explain proxy costs used and/or bases for projections)	End of Q1 2010 Value	End of Q2 2010 Value	End of Q3 2010 Value	End of Q4 2010 Value	Historic Proxy Cost / Annual Value	Projection - Ongoing Annual Costs/Value	Explanatory Notes (Please explain proxy costs used and/or bases for projections)
Net Mark to Market of financially-settled swaps **assuming all counterparties are swap dealers.** See Guide to Cost Matrices for Details of Calculation.														
Gross Mark to Market of financially-settled swaps **assuming all counterparties are swap dealers.** See Guide to Cost Matrices for Details of Calculation.														
Net Mark to Market of financially-settled swaps **assuming all 50% of counterparties are swap dealers**. See Guide to Cost Matrices for Details of Calculation.														
Gross Mark to Market of financially-settled swaps **assuming all 50% of counterparties are swap dealers**. See Guide to Cost Matrices for Details of Calculation.														
VAR (using company model) of financially-settled swaps **assuming all counterparties are swap dealers.** See Guide to Cost Matrices for Details of Calculation.														
VAR (using company model) of financially-settled swaps **assuming 50% of counterparties are swap dealers.** See Guide to Cost Matrices for Details of Calculation.														
SPAN model VAR of financially-settled swaps **assuming all counterparties are swap dealers.** See Guide to Cost Matrices for Details of Calculation.														
SPAN model VAR of financially-settled swaps **assuming 50% of counterparties are swap dealers.** See Guide to Cost Matrices for Details of Calculation.														
Collateral Segregation Costs (per Counterparty)														
Total Counterparties														
Percent of Swaps Cleared														

Exhibit 1
Matrix II.A. - Capital - Market Risk Requirement

		Limited Designation as Swap Dealer		Full Designation as a Swap Dealer	
		Calendar Year 2010 Value / Historic Proxy Cost	Explanatory Notes (Please explain proxy costs used and/or bases for projections)	Calendar Year 2010 Value / Historic Proxy Cost	Explanatory Notes (Please explain proxy costs used and/or bases for projections)
Net Long or Short	Power (MWh)				
	Natural Gas (lots)				
	Oil (bbl)				
	Coal (tons)				
	Cross-Commodity and Other (Specify Units in Notes)				
Net Long or Short ($)	Power ($)				
	Natural Gas ($)				
	Oil ($)				
	Coal ($)				
	Cross-Commodity and Other ($)				
Gross Long or Short ($)	Power ($)				
	Natural Gas ($)				
	Oil ($)				
	Coal ($)				
	Cross-Commodity and Other ($)				
Capital Requirements	Existing Capital Requirement for Affected Transactions (pre-rulemaking)				
	Debt to Total Capital Ratio				

Exhibit 1

Matrix II.B. - Capital - Credit Risk Requirement

	Limited Designation as a Swap Dealer								Full Designation as a Swap Dealer							
	Credit Equivalent Amount		Counterparty Exposure Charge (8% of the Credit Equivalent Amount)		Tangible Net Equity		Counterparty Concentration Charge (See Guide to Cost Matrices for Details of Calculation)		Credit Equivalent Amount		Counterparty Exposure Charge (8% of the Credit Equivalent Amount)		Tangible Net Equity		Counterparty Concentration Charge (See Guide to Cost Matrices for Details of Calculation)	
	Year-End 2010 Mark to Market	Potential Future Exposure (notional times conversion factor of 10-15%)	Calendar Year 2010 Value	Explanatory Notes (Please explain proxy costs used and/or bases for projections)	5% of Tangible Net Equity	50% of Tangible Net Equity	Calendar Year 2010 Value	Explanatory Notes (Please explain proxy costs used and/or bases for projections)	Year-End 2010 Mark to Market	Potential Future Exposure (notional times conversion factor of 10-15%)	Calendar Year 2010 Value	Explanatory Notes (Please explain proxy costs used and/or bases for projections)	5% of Tangible Net Equity	50% of Tangible Net Equity	Calendar Year 2010 Value	Explanatory Notes (Please explain proxy costs used and/or bases for projections)
Counterparty 1																
Counterparty 2																
Counterparty 3																
Counterparty 4																
Counterparty 5																
Counterparty 6																
Counterparty 7																
Counterparty 8																
Counterparty 9																
Counterparty 10																
Counterparty 11																
Counterparty 12																
Counterparty 13																
Counterparty 14																
Counterparty 15																
Counterparty 16																
Counterparty 17																
Counterparty 18																
Counterparty 19																
Counterparty 20																
Counterparty 21																
Counterparty 22																
Counterparty 23																
Counterparty 24																
Counterparty 25																
Add or Subtract Uncleared Swap Counterparties as Needed																

Exhibit 1
Matrix III - Recordkeeping and Reporting

	Limited Designation as a Swap Dealer				Full Designation as a Swap Dealer			
	Historic Proxy Costs	Projection - Initial Setup Costs	Projection - Ongoing Annual Costs	Explanatory Notes (Please explain proxy costs used and/or bases for projections)	Historic Proxy Costs	Projection - Initial Setup Costs	Projection - Ongoing Annual Costs	Explanatory Notes (Please explain proxy costs used and/or bases for projections)
IMs (SDs required to retain by trade ID)								
Phone (SDs required to retain by trade ID)								
Change Management and Training for new Data Entry obligations								
Trade IDs, Time Stamps and Other New Reporting Requirements (including standardization costs)								
Existing Data Harmonization (with CFTC/SDR/Industry standards for Reporting)								
Real Time Reporting **Assuming all Counterparties are Swap Dealers**								
Real Time Reporting **Assuming 50% of Counterparties are Swap Dealers**								
Position Limit Reporting including physical positions (include harmonization costs)								
Counterparty Confirm & Acknowledgement Requirements								
Reporting of Historic Swap Data								

Exhibit 1
Matrix IV - Business Conduct Infrastructure

	Limited Designation as Swap Dealer				Full Designation as a Swap Dealer			
	Historic Proxy Costs	Projection - Initial Setup Costs	Projection - Ongoing Annual Costs	Explanatory Notes (Please explain proxy costs used and/or bases for projections)	Historic Proxy Costs	Projection - Initial Setup Costs	Projection - Ongoing Annual Costs	Explanatory Notes (Please explain proxy costs used and/or bases for projections)
Daily Valuation of Positions for Counterparties								
Position Limit Monitoring (May apply to affiliate positions too)								
Position Limit-Related Divestitures								
CCO + Staff								
Annual Certified Compliance Report								
Audits (Quarterly Internal Obligations)								
Counterparty Reporting / Disclosures								
Registration Costs								

Exhibit 1
Matrix V - Profitability

	Limited Designation as a Swap Dealer			Full Designation as a Swap Dealer		
	Calendar Year 2010 Value	Projection - Ongoing Annual Margins	Explanatory Notes (Please explain proxy costs used and/or bases for projections)	Calendar Year 2010 Value	Projection - Ongoing Annual Margins	Explanatory Notes (Please explain proxy costs used and/or bases for projections)
Average Transaction Margin (Including only Uncleared Swap Transactions)						
Average Transaction Margin (Over the Entire Energy Trading Business)						
Total Pre-Tax Gross Margin (Including only Uncleared Swap Transactions)						
Total Pre-Tax Gross Margin (For the Entire Energy Trading Business)						

Exhibit 2
Nonfinancial Energy Company
Calculation of Pre-Tax Net Cost of Posting Margin and of Capital Requirement

Illustrative After-Tax Weighted Average Cost of Capital For Nonfinancial Energy Company

Interest Rates and Risk Premium	October 1, 2008	October 1, 2011	Average
30-year Risk-Free Rate[1]	4.22%	2.76%	3.49%
Cost of Debt for BBB-Rated Company[1]	7.87%	5.22%	6.55%
Equity Risk Premium[2]	7.13%	6.67%	6.90%

Betas, Cap Structure, and Cost of Capital	October 1, 2008	October 1, 2011	Average
Debt/Capital	0.50	0.50	50.00%
Equity Beta	1.20	1.20	120.00%
After-Tax Cost of Equity	12.78%	10.76%	11.77%
Tax Rate	40.00%	40.00%	40.00%
Pre-Tax Cost of Equity	21.29%	17.94%	19.62%
Pre-Tax WACC	14.58%	11.58%	13.08%

Illustrative Yield on Margin Posted

Yield on 30-year Treasuries[1]	4.22%	2.76%	3.49%

Net Cost of Posting Margin

Pre-Tax Weighted Cost of Capital	13.08%
Pre-tax yield on Margin Posted	3.49%
Net Pre-Tax Cost	**9.59%**

Net Cost of Meeting Equity Capital Requirement

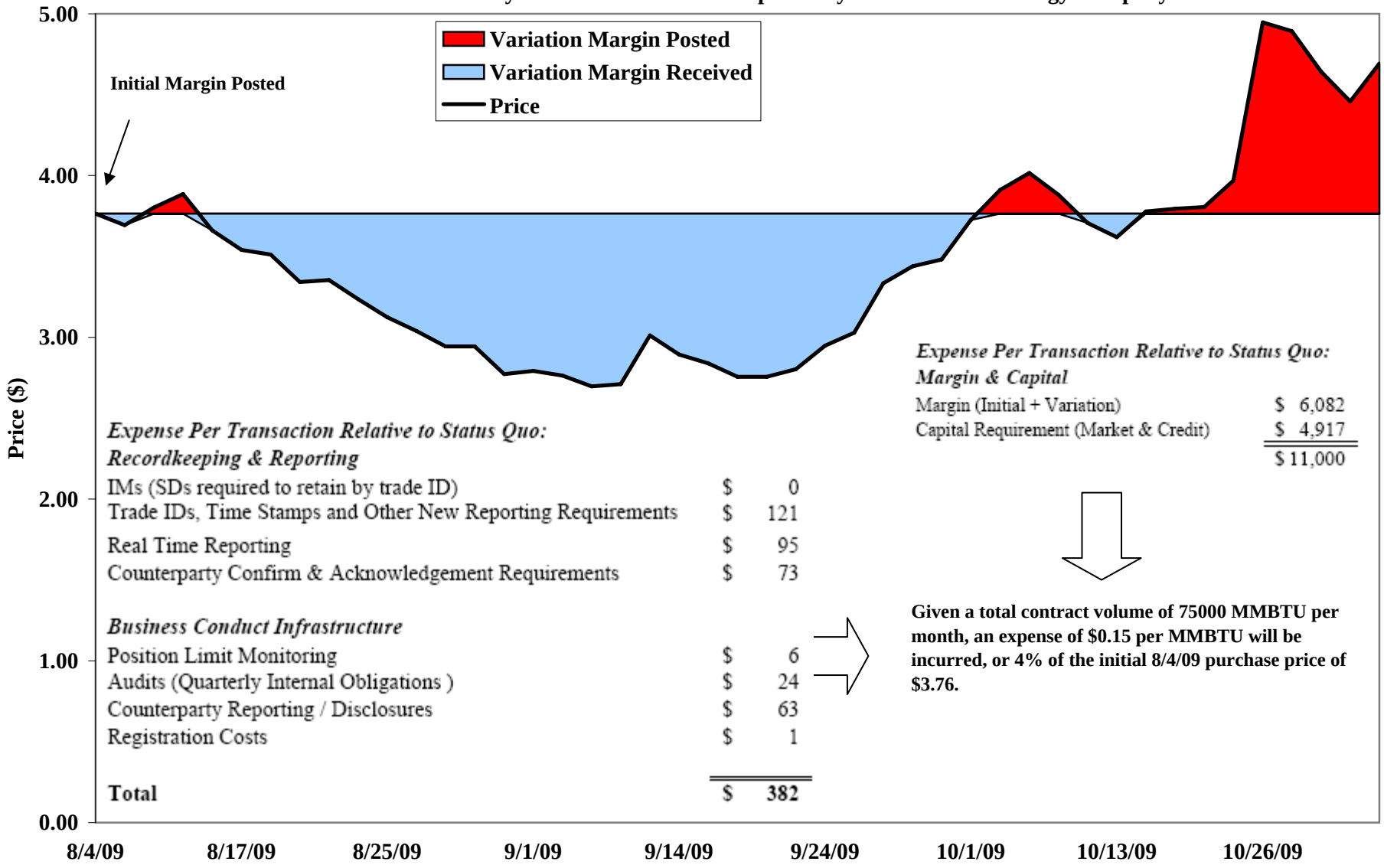
Pre-Tax Cost of Equity Capital	19.62%
Pre-tax Yield on Capital Held	3.49%
Net Pre-Tax Cost	**16.13%**

Notes and Sources:

[1] The risk-free rate and yield on Baa-rated debt is obtained from the Federal Reserve's H.15 Release.

[2] Equity Risk Premiums are obtained from Ibbotson's 2007 and 2010 Valuation Yearbooks, respectively.

Exhibit 3
Illustrative Example of Margin Requirements and Associated Costs
Resulting from CFTC Proposed Rules under Dodd-Frank
On a SoCal Financially Settled Natural Gas Swap Sold by a Nonfinancial Energy Company



Expense Per Transaction Relative to Status Quo: Recordkeeping & Reporting

IMs (SDs required to retain by trade ID)	$ 0
Trade IDs, Time Stamps and Other New Reporting Requirements	$ 121
Real Time Reporting	$ 95
Counterparty Confirm & Acknowledgement Requirements	$ 73
Business Conduct Infrastructure	
Position Limit Monitoring	$ 6
Audits (Quarterly Internal Obligations)	$ 24
Counterparty Reporting / Disclosures	$ 63
Registration Costs	$ 1
Total	**$ 382**

Expense Per Transaction Relative to Status Quo: Margin & Capital

Margin (Initial + Variation)	$ 6,082
Capital Requirement (Market & Credit)	$ 4,917
	$ 11,000

Given a total contract volume of 75000 MMBTU per month, an expense of $0.15 per MMBTU will be incurred, or 4% of the initial 8/4/09 purchase price of $3.76.

Comparison to Status Quo: Under Status Quo, capital requirements, initial margin requirements, record keeping and reporting, and business conduct costs do not apply. Variation margin is only posted when exposure exceeds the unsecured credit threshold.

Notes and Sources: Margin and capital costs are calculated to match the specific terms of this transaction. Recordkeeping, Reporting and Business Conduct Infrastructure Expenses are taken from the survey for the firm providing the most transaction-level detail. Initial costs are amortized over 10yrs.

Exhibit 4
Nonfinancial Energy Companies
Compliance Costs Would Eliminate a Large Portion, if Not All, of Profits

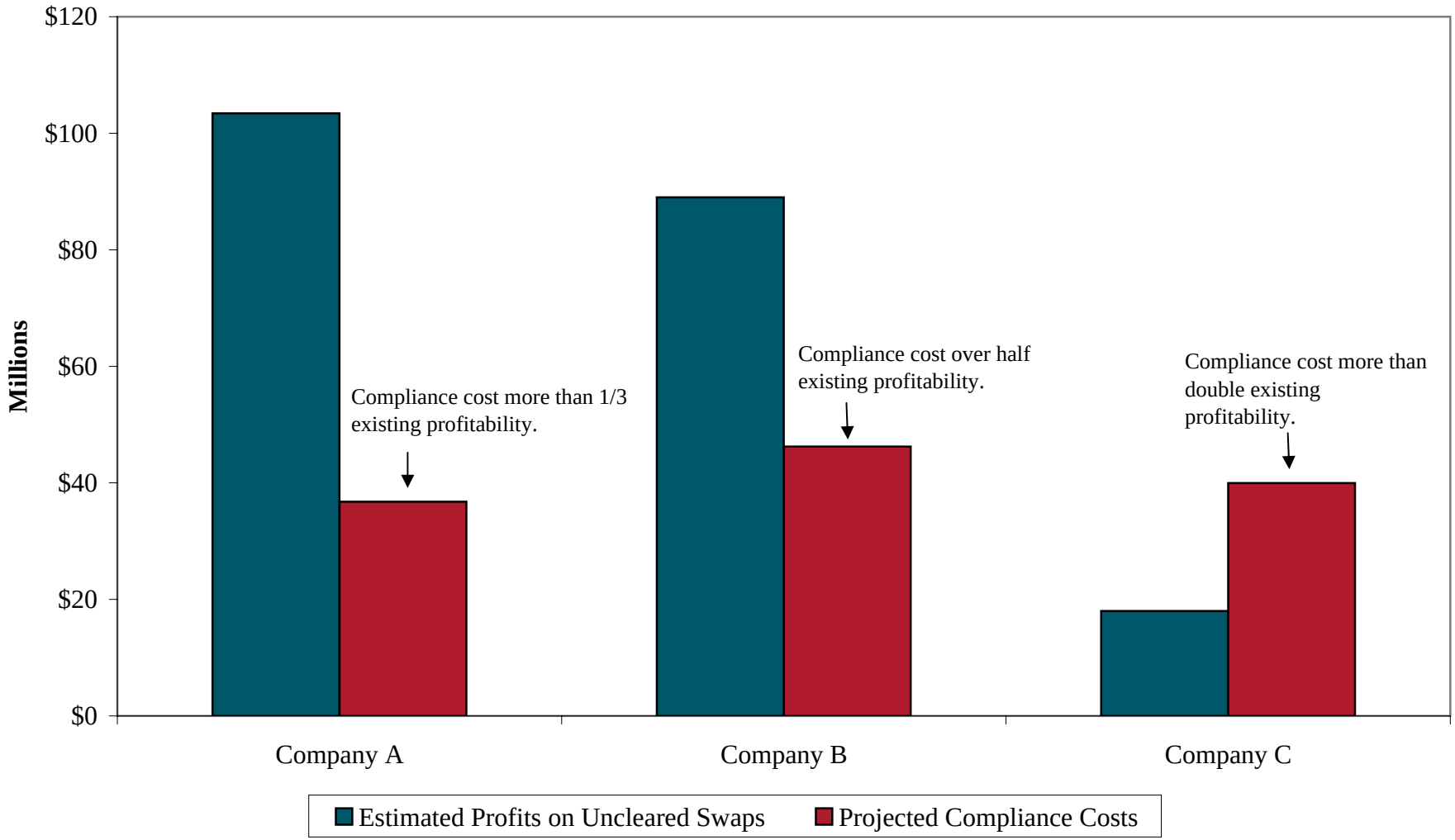
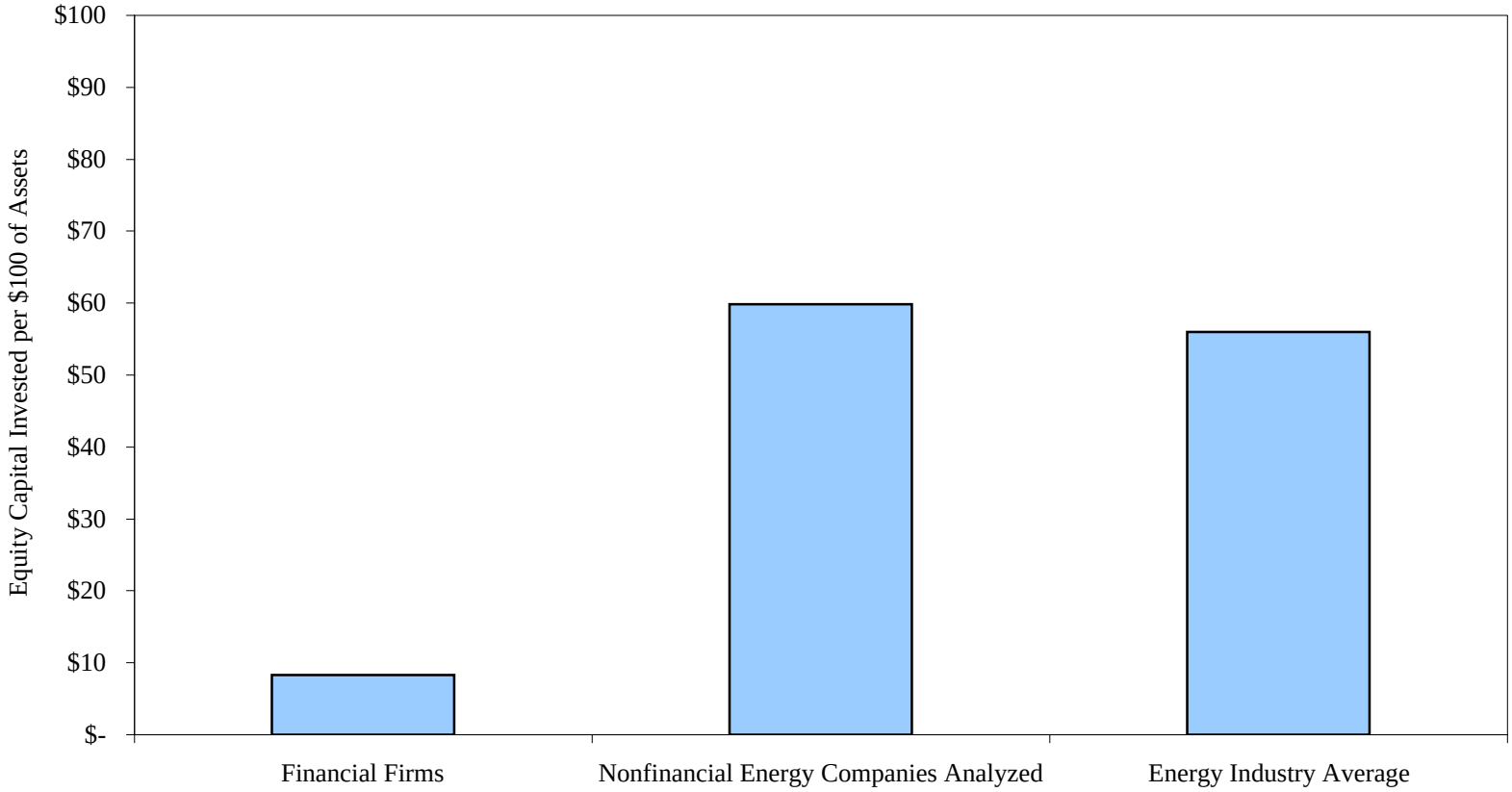


Exhibit 5
Equity Capital Invested per $100 of Assets
Nonfinancial Energy Companies Do Not Employ Excessive Leverage Like Financial Firms



Notes and Sources:
Industry data are obtained from Factset Research Systems, Inc.
Survey summary statistics are calculated over respondents who provided relevant data: parties 1, 3, & 4. Industry average is calculated over companies found in Ibbotson Cost of Capital 2010 Yearbook, where SIC 491 (electric services), SIC 492 (gas production and distribution), having an average debt:total capital of 44%. This industry data is consistent with the debt-to-capital ratios for companies in the Dow Jones Utilities Index and in S&P 1500 GICS/Energy Index.

Exhibit 6
Examples of Transfers and Closures of OTC Energy Trading Operations

2001

September: Dominion Resources Inc. ("Dominion") paid $2.3 billion to acquire Louis Dreyfus Natural Gas Corp. The acquisition bolstered Dominion's growing energy-trading division—augmenting Dominion's natural gas reserves by nearly two thirds.

2002

February: The investment bank UBS Warburg entered into the energy-trading sector by acquiring the trading desk of onetime trading giant Enron. The acquisition resulted in the formation of USBWenergy, which retained 625 Enron employees.

August – October: In an effort to mitigate recent losses, Aquila cut off the once highly viable wholesale marketing and trading arms of the company. The company's decision to refocus its operations on regulated energy brought about the sale of $1 billion in assets and the laying off of over 1,000 employees.

October: Dynergy quit the energy trading business after seeing its share price drop from $47.50 to less than a dollar in less than a year. The company's departure from trading came amidst accusations that the company had misled investors with false accounting.

November: El Paso Corp. endeed its energy trading operations after the division loses $150 in the most-recent quarter. The performance of the company's energy trading division came in stark contrast to the previous year, when the division netted $750 million in profits.

2003

No specific date: In a year filled with financial distress, Allegheny Energy ended trading in Western U.S. energy markets, spurring company losses of $277.4 million over the course of the year.

July: After incurring $1.4 billion of debt, the National Energy Group ("NEG") of Pacific Gas and Electric Corp. filed for bankruptcy. NEG's operations consisted of merchant power generation and energy trading.

2004

September: Merrill Lynch entered the increasingly profitable energy-trading business with the acquisition of Entergy-Koch LP, an energy trading company based in Houston, for an undisclosed amount. As a result of the transfer, Merrill Lynch absorbed 300 former Entergy-Koch staff.

Exhibit 6
Examples of Transfers and Closures of OTC Energy Trading Operations

2006

September: Amaranth Advisors deals off its $3-billion energy-trading portfolio. With its natural-gas trading division losing over $3 billion earlier in the month, the sale helped Amaranth avoid defaulting on its debt.

2007

May: For a price of $496 million, Williams Power Company agreed to sell the bulk of its trading-related power and natural-gas assets, including nearly 10,000 megawatts, to Bear Stearns. The sale served to boost to Bear Stearn's energy-trading portfolio. Control of the assets was handed to Houston-based Bear Energy LP, a subsidiary of Bear Stearns.

2008

December: JP Morgan expanded its commodity trading sector with the acquisition of UBS's Global Agricultural commodities and Canadian energy commodities businesses. The sale helped UBS move forward with its plans to cease trading commodities and increase operations in other areas.

2009

October: Citigroup agreed to sell Phibro LLC ("Phibro"), a commodity trader focusing on oil and gas markets, to Occidental Petroleum Corporation ("Occidental"). Occidental absorbed the current employees of Phibro, which had generated a consistent stream of profits over the previous decade.

2010

July: To expand its energy portfolio, JP Morgan Chase paid $1.6 billion to add the worldwide oil, metals, and coal assets of RBS Sempra Commodities to its global commodities portfolio. The transaction also included RBS Sempra's European power, European gas and global emissions assets sans the US.

Exhibit 7
Examples of Bankruptcies of Nonfinancial Energy Companies

1988

January: Public Service of New Hampshire ("PSNH") filed for bankruptcy after enduring a number of cost overruns in constructing the Seabrook nuclear plant, which would not go online until 1990. The bankruptcy directly followed the New Hampshire Public Utility Commission's decision to prohibit PSNH from increasing rates via the inclusion of expenses from construction works in progress.

1994

December: Cajun Electric Power Cooperative, Inc. ("Cajun") filed for bankruptcy protection. Having invested heavily in a Louisiana nuclear plant, Cajun unsuccessfully petitioned the Louisiana Public Service Commission for a rate increase. Having been denied the rate increase, Cajun ended in $4.2 of debt, which it was unable to refinance.

2001

April: Pacific Gas and Electric Company ("PG&E") filed for bankruptcy following an extended period of high wholesale prices in the California power market. The increase in purchased power costs could not be offset by increasing retail prices to consumers since those prices were capped by the California Public Utility Commission (CPUC). PG&E emerged from bankruptcy in April 2004.

December: Enron, a large energy-trading company, filed for Chapter-11 bankruptcy. Dishonest accounting practices lead to overinvestment in the firm. Enron defaulted on its debt.

2003

March: NRG Energy ("NRG") agreed to absolve Xcel Energy, Inc. ("Xcel") of debts owed to a NRG generating facility, in exchange for a payment of $752 million. Xcel was obligated to complete the payment over a period of 13 months.

July: After falling $4.9 billion into debt, increases in operating costs and decreases in revenues forced Mirant to file for bankruptcy protection. Mirant's became the largest company to file for bankruptcy since WorldCom in 2002.

July: USGen New England was severely impacted by the volatility in the energy markets during 2002. A significant decline in energy margins, increased scrutiny by regulators and general liquidity problems in the energy industry forced the company into bankruptcy. The company was eventually forced to sell off its assets.

2005

December: Calpine filed for bankruptcy protection under Chapter 11. Calpine was squeezed by a severe credit crunch and faced a weak power market.