

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF VERMONT**

ENTERGY NUCLEAR VERMONT)
YANKEE, LLC and ENTERGY)
NUCLEAR OPERATIONS, INC.)
)
Plaintiffs,)
)
v.)
)
PETER SHUMLIN, in his official capacity)
as GOVERNOR OF THE STATE OF)
VERMONT; WILLIAM H. SORRELL,)
as ATTORNEY GENERAL OF THE)
STATE OF VERMONT; and JAMES)
VOLZ, JOHN BURKE, and DAVID)
COEN, in their official capacities as)
members of THE VERMONT PUBLIC)
SERVICE BOARD)
)
Defendants.)
_____)

Civil Action No. 11-cv-99

DECLARATION OF SETH G. PARKER

Seth G. Parker declares as follows pursuant to 28 U.S.C. § 1746:

I. Introduction

1. In support of their motion for a preliminary injunction, Plaintiffs Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. (collectively “ENVY”) submitted the declaration of Edward D. Kee, a Vice President at NERA Economic Consulting. ECF Doc. No. 4-11. In attempting to demonstrate irreparable harm if not granted a preliminary injunction, and that granting the requested injunction would serve the public interest, Mr. Kee makes a number of arguments that are not supported by the materials on which he relies or otherwise do not hold up to scrutiny. This declaration

explains the results of my review of Mr. Kee's analysis and demonstrates that his declaration does not provide a valid basis for granting ENVY's motion.

II. Background and Qualifications

2. I am a Vice-President and Principal of Levitan & Associates, Inc. ("LAI"), a management consulting firm specializing in the power and fuels markets. I joined LAI in 1998. LAI is located at 100 Summer Street, Suite 3200, Boston, MA, 02110. I have conducted or supervised the work of LAI underlying this Declaration. Neither LAI nor I have any direct financial interest in ENVY or any related companies or in the outcome of this matter.

3. Since its founding in 1989, LAI has conducted numerous assignments in New England and other markets throughout the U.S. and Canada. These assignments have encompassed diverse matters pertaining to price forecasts, competitive power market design, generating asset valuation, bulk power security, power and fuel procurements, contract structures, gas supply, storage, and transmission, fuel infrastructure, and risk management. LAI's clients include utilities, power and gas suppliers, Independent System Operators ("ISOs") and Regional Transmission Organizations ("RTOs"), end-users, state regulatory commissions, and financial institutions.

4. I am an economic and financial manager with an international background in power and fuel project development, evaluation, financing, and transactions. I have been responsible for modeling and analyses of independent and utility-owned generation and transmission projects, as well as market design, regulatory policy, contract restructuring, power economics, and asset valuation assignments. My power market experience includes many assignments in the competitive power markets of ISO-New

England (“ISO-NE”), New York ISO (“NYISO”), and PJM Interconnection (“PJM”).

These assignments include helping to establish competitive market parameters that determine generator revenues, forecasting competitive market power prices, forecasting power plant revenues and costs, and calculating the impact of generation and transmission changes in competitive markets.

5. Two of my past assignments are of particular relevance in this matter. First, I estimated (i) the market value of Entergy Corporation’s Indian Point nuclear power station in New York and (ii) retirement impacts on market power prices and the local economy for the County of Westchester and its Public Utility Service Agency. Second, I testified on behalf of the Vermont Department of Public Service (“DPS”) in Docket 7404 before the Vermont Public Service Board concerning Entergy Corporation’s proposed restructuring of its merchant nuclear generating assets, including Vermont Yankee.

6. Before joining LAI, I worked as a consultant and officer of Stone & Webster Management Consultants, Inc., an advisory firm that provided business, technical, strategic management, economic, financial, and regulatory consulting services in the power, fuels, process, and infrastructure industries. While at Stone & Webster, I was responsible for due diligence and market reviews of many proposed power, fuel, and infrastructure projects in the U.S. and abroad for commercial banks, investment banks, multilateral lending agencies, and other financial institutions. I have also worked in the Treasurer’s Office at Pacific Gas & Electric, and have been involved in project development and financing activities at ThermoElectron Energy Systems and J. Makowski Associates, Inc.

7. My educational background includes an Sc.B. in Applied Mathematics / Economics from Brown University and an M.B.A. in Finance / Operation Research from the Wharton Graduate School at the University of Pennsylvania. I have taught undergraduate-level finance courses as an adjunct faculty lecturer and have taken additional course work in Basic Gas Turbine Technology and International Political Economics. My resume is attached as Exhibit 1.¹

8. In addition to having testified before the Vermont Public Service Board in Docket 7404, I have (i) provided expert reports and participated in technical conferences at the Federal Energy Regulatory Commission (“FERC”), (ii) provided expert reports and testified in U.S. District Court, and (iii) provided expert reports and testimony before other state regulatory commissions. My resume contains a list of my expert reports and testimony.

III. Analysis of Mr. Kee’s Declaration

9. My review is organized into three sections that follow the structure of Mr. Kee’s declaration: (a) claims of near-term harm to ENVY; (b) claims of long-term harm to ENVY; and (c) claims of harm to the public.

10. Preliminarily, I wish to note three general issues that call into question some of Mr. Kee’s conclusions. First, Mr. Kee did not conduct any original research or analysis to support his claims, but relied entirely on studies performed by other parties. While relying on the work of others is, of course, an acceptable methodology, I found defects in many of the studies on which Mr. Kee relied, some of which contradict Mr. Kee’s claims.

¹ Exhibits to this Declaration are identified herein as “Exhibit ##.” I also refer to a number of Exhibits to Mr. Kee’s Declaration. They are referred to as “Kee Ex. ##.”

11. Second, Mr. Kee utilized a number of findings from those studies even though they are qualified in the studies with words such as “potentially” or “as much as” or “might be.” For example, Mr. Kee relied on three studies to support his claim that “early closure of Vermont Nuclear station would mean higher electricity prices for the region.” However, each of those three studies qualified the estimated increase in prices with terms like “might increase by as much as”, “likely to be higher”, and “might be 25% higher.” The uncertainty in these studies and the resulting need to use these qualifying phrases calls Mr. Kee’s conclusions into question.

12. Third, a number of Mr. Kee’s conclusions, as well as several of the studies he relied upon, fail to take into account the fact that ISO-NE will implement a reliability solution if Vermont Yankee cannot operate beyond 2012 and no market solutions, such as new merchant generation, occur. Indeed, according to ISO-NE’s Final Capacity Auction Results: Surplus Resources Available for 2013-2014, Kee Ex. 18:

ISO New England does not have authority to require Vermont Yankee to operate without the appropriate permits and licenses, but it does have the responsibility to ensure a reliable power system. This responsibility requires the ISO to develop alternative solutions that will ensure reliability in the area of the power system that includes parts of Vermont, New Hampshire, and western and central Massachusetts beginning as early as March 2012 if Vermont Yankee can no longer operate.

(emphasis added). Similarly, in the February 17, 2011 Summary of its Study on the Vermont / New Hampshire Transmission System, ISO-NE confirmed that the recommended solution could entail “new generation, increased energy efficiency, and new sources of imported power, all of which could help address system reliability issues.” Kee Ex. 23. These reliability solutions would require investment, support jobs, and assure reliability.

13. In addition to any actions taken by ISO-NE, Vermont utilities have options to fulfill their customers' needs if Vermont Yankee shuts down in 2012 and they have been planning for that contingency. For example, in its May 6, 2011, First Quarter 2011 Earnings Conference Call, Central Vermont Public Service ("CVPS") addressed its past and pending efforts to plan for Vermont Yankee's closure. According to Larry Riley, President and CEO of CVPS:

Given the contention around Vermont Yankee, we have always planned simultaneously for a future, both with and without the plant. We have a plethora of options available, and the nearly half-dozen contracts we have signed over the past couple of years, along with improvements to our own generation sources, has reduced our need after March 2012, to less than 90 megawatts on peak.

Given the wide array of options available in New England, we are confident that we'll be able to fill our portfolio with affordable energy that complements our existing supplies and meets Vermonters' expectations for continued low-carbon energy mix.

Exhibit 2, Transcript of CVPS Q1 2011 Earnings Conference Call—Final (May 6, 2011) at 4 (emphasis added).

14. Therefore, Mr. Kee's conclusions about job losses, higher electricity prices, and other potential impacts of Vermont Yankee's retirement failed to properly consider the likelihood of an alternative market solution, a utility option, or an ISO-NE reliability solution.

A. Claims of Near-Term Harm to ENVY Regarding Electricity Sale Contracts

15. Mr. Kee claims that ENVY will be harmed if not granted an injunction because the uncertainty regarding Vermont Yankee's continued operation past March 21, 2012, will limit its ability to enter into long-term electricity sale contracts. This claim is problematic for at least the following reasons.

1. Contract Contingency

16. First, Mr. Kee claims that ENVY would receive lower contract prices because it would have to make any such contract contingent on the continued operation of the plant, making the contract less valuable to a buyer. Kee Dec. ¶ 20. However, his analysis does not take into account the fact that the existing Power Purchase Agreement (“PPA”) between ENVY and the Vermont Yankee Nuclear Power Corporation is similarly contingent on Vermont Yankee’s operation. The PPA is a “unit-contingent” contract because buyers can only purchase Vermont Yankee’s output when the plant is operating. In fact, the Vermont 2009 Comprehensive Energy Plan refers to the “unit-contingent energy contract with Entergy, owners of Vermont Yankee.” Kee Ex. 12, at III-36, III-39. In the unit-contingent PPA, purchasers are exposed to market power prices whenever Vermont Yankee is out of service.² Even if operation beyond March 21, 2012 could be assured, ENVY’s purchasers would be exposed to market power prices whenever Vermont Yankee was out of service, whether for planned refueling outages or for unplanned reasons. As a result, ENVY would not receive contract prices as high as those in a contract that did not have such a contingency.

2. Contract Comparison

17. Mr. Kee claims that the difference between the prices in a recently rejected contract between ENVY and Vermont Electric Co-operative (“VEC”) and a new contract between Vermont utilities and Hydro-Quebec demonstrates that ENVY will be harmed by

² See Exhibit 3, Vt. Dep’t of Pub. Serv., 2005 Vermont Comprehensive Energy Plan, at 4-7 (“The only risk the utilities remain subject to is from interruptions in the plant’s operation, since the contract provides energy to GMP and CVPS only if the plant actually operates.”).

having to incorporate a contingency in any new contract.³ Kee Dec. ¶ 20. As reported in the Burlington Free Press article cited by Mr. Kee, the ENVY-VEC contract called for prices at “4.9 cents per kilowatt hour for the first year of a 20-year contract and then for prices tied to market price thereafter,” which were “below the current market price and below the 6-cent starting price utilities recently agreed to pay for Hydro-Quebec power.” *Id.* (quoting Kee Dec. Ex. 3). This new Hydro-Quebec contract will ramp up deliveries starting in 2012 as the current Hydro-Quebec contract, which was signed on December 4, 1987, begins to ramp down.⁴ The ENVY-VEC and new Hydro-Quebec contracts, however, differ in important respects that make a direct price comparison problematic.

18. First, the new Hydro-Quebec contract will provide on-peak energy for 16 hours per day, seven days per week while the ENVY-VEC contract would have provided round-the-clock energy whenever Vermont Yankee is operating. On-peak energy under the Hydro-Quebec contract is more valuable than round-the-clock energy from Vermont Yankee. ISO-NE dispatches more expensive plants during on-peak hours than during off-peak hours, and the most expensive plant dispatched in any hour sets the market energy price for all plants operating in that hour. As a result, on-peak energy prices are significantly higher than off-peak energy prices. Thus, Hydro-Quebec energy deliveries will allow Vermont utilities to avoid purchasing expensive on-peak energy, while about one-half of the Vermont Yankee energy deliveries will be during off-peak hours when the savings will be lower.

³ Mr. Kee also claimed “more expensive” prices from Hydro-Quebec imports as a long-term harm, Kee ¶ 57, a claim I address further on in this document.

⁴ According to the Joint Testimony of W. Deehan and C. Cole of August 17, 2010 regarding the proposed Hydro-Quebec contract, VT PSB Docket No. 7670, “The contract volume phases-in during the first eight years as the volumes purchased under the existing VJO [Hydro-Quebec] Contract phase down.” Exhibit 6 at 11.

19. Second, the new Hydro-Quebec contract is more valuable because it is not unit-contingent, while the ENVY contract is contingent on Vermont Yankee operating, as I explained earlier. Third, Hydro-Quebec is a stronger credit, *i.e.* is financially stronger, than ENVY and therefore has a lower risk of non-performance.⁵ Fourth, the Hydro-Quebec contract is for energy with associated environmental attributes, while the ENVY contract is for energy and capacity only.⁶ Environmental attributes qualify Hydro-Quebec deliveries as renewable energy and should help the Vermont utility purchasers meet the renewable energy goals of Vermont's Sustainably Priced Energy Enterprise Development ("SPEED") program.⁷

20. Due to these fundamental differences, Mr. Kee's comparison of the ENVY-VEC and Hydro-Quebec contract prices is not a valid basis on which to conclude that the price difference results from the fact that the ENVY-VEC contract was contingent on Vermont Yankee's continued operation.

3. Short-Term Sales

21. Mr. Kee asserts that the uncertainty of Vermont Yankee's continued operation will interfere with ENVY's near-term ability to negotiate and enter into long-term power sale contracts, and thus ENVY will be exposed to "higher risk from volatile

⁵ Hydro-Quebec is a government-owned corporation which generates, transmits, and distributes electricity in Quebec and exports electricity to New England, New York, and Ontario. Hydro-Quebec has long-term senior unsecured debt credit ratings of Aa2 / A+ / AA- from Moody's, Standard & Poor's, and Fitch, respectively. Entergy Corporation, ENVY's parent company, has long-term senior unsecured debt credit ratings of Baa3 and BBB from Moody's and Standard & Poor's. Entergy's credit ratings are 5 and 4 notches lower, respectively, than Hydro-Quebec's.

⁶ The proposed Hydro-Quebec contract is discussed in the Joint Testimony of W Deehan and C Cole of August 17, 2010, VT PSB Docket No. 7670. Exhibit 6 at 13.

⁷ The SPEED program was created to promote renewable energy development. Other New England states have Renewable Portfolio Standards ("RPS"). In its Order approving the Hydro-Quebec PPA in Docket No. 7670, the Vermont Public Service Board found that "power provided under the HQ PPA will count towards SPEED goals or an RPS, should one go into effect, if it meets the criteria set forth in Vermont law for such power." Exhibit 13, at 56.

short-term electricity market prices (if unable to enter into agreements) and in potentially lower electricity sale agreement prices from other buyers.” Kee Dec. ¶ 21. However, the “higher risk” may well have a corresponding benefit for ENVY. As Mr. Kee points out, if ENVY cannot, or decides not to, sell its output under a long-term contract, ENVY would still be able to sell all of its output into the short-term electricity market. *Id.* ¶ 18. While those short-term prices may be volatile compared to a long-term contract, those short-term prices may well be higher and more lucrative. The reason is that generators are generally willing to accept lower long-term contract prices in order to avoid price uncertainty, and buyers generally require a price discount to shield generators from that uncertainty. Thus, while short-term market prices may be more volatile, they would likely also be higher in light of the trade-off between risk and price.

4. Alleged Harm is Speculative

22. Fourth, the alleged harm of not being able to enter into long-term contracts is speculative. Indeed, Mr. Kee sums up the alleged harm as resulting from “potentially lower electricity sale agreement prices from other buyers,” Kee Dec. ¶ 21 (emphasis added), using the qualifier “potentially” to indicate that this outcome is by no means certain.

5. Uncertainty Would Remain

23. Finally, and perhaps most importantly, it is not clear that granting a preliminary injunction would have any impact on ENVY’s ability to enter into long-term contracts. Mr. Kee’s conclusion rests on assumptions about how potential buyers will behave in light of the uncertainty regarding Vermont Yankee’s ability to operate past March 21, 2012. A preliminary injunction will not remove that uncertainty, because

potential buyers understand that such an injunction does not mean that the Court will ultimately rule in ENVY's favor. Therefore, in my opinion, granting the preliminary injunction ENVY is seeking would not alter the need for a contingency in any contract with potential buyers.

B. Alleged Claims of Long-Term Harm to ENVY

24. In my opinion, Mr. Kee's claims that ENVY will suffer lost profits and lost option value are too speculative and uncertain to show irreparable harm if not granted an injunction.

1. Lost Profits

25. As a threshold matter, Mr. Kee makes no attempt to quantify any lost profits but simply describes some of the factors and assumptions one would consider in calculating an estimate, Kee Dec. ¶¶ 32-33, making it impossible to consider this alleged harm in a concrete way. Indeed, given the many challenges that can arise in operating and maintaining a nuclear power plant, any lost-profit projection should consider a broad range of upside and downside results.

26. Further, when ENVY purchased Vermont Yankee, neither the NRC license nor the State's Certificate of Public Good ("CPG") extended beyond March 21, 2012, and ENVY realized that there was no assurance that it could obtain those approvals and thus be able to operate beyond that date.⁸ For example, Entergy's 2002 SEC Form 10-K, described the purchase as including a ten year contract as follows:

In July 2002, Entergy's Non-Utility Nuclear business purchased the 510 MW Vermont Yankee nuclear power plant located in Vernon, Vermont, from Vermont Yankee Nuclear Power Corporation for \$180 million....The

⁸ Section 12 of the 2002 MOU related to the sale of the plant specifically states that operation of Vermont Yankee "beyond March 21, 2012 shall be allowed only if application for renewal of authority under the CPG to operate [Vermont Yankee] is made and granted." Ngau Ex. 3 at ¶ 12, p.6.

acquisition included a 10-year power purchase agreement (PPA) under which the former owners will buy the power produced by the plant, which is through the expiration of the current operating license for the plant.

Exhibit 4, Note 14, at 92. There was no mention of operating Vermont Yankee beyond 2012 and it is inaccurate for Mr. Kee to portray not being able to earn such profits beyond March 2012 as “lost” when they were not certain to begin with.

2. Lost Option Value

27. Mr. Kee claims that the option value associated with Vermont Yankee, *i.e.* “the ability to take actions in the future when better information is available,” will be lost. Kee Dec. ¶¶ 34-35. The same issues I discussed above concerning lost profits applies here: Mr. Kee’s analysis makes no attempt to quantify the alleged lost option value, and ENVY accepted the twin risks of NRC license extension and CPG extension when it purchased the plant. Thus, Vermont Yankee’s option value beyond March 2012 is and always has been contingent upon future regulatory decisions favorable to ENVY.

28. In addition, Vermont Yankee is a baseload plant that has low operating costs and was designed to operate continuously at (or close to) full load.⁹ As a baseload plant, ENVY has a limited ability to react to market conditions compared to other plant technologies. For example, gas-fired combined cycle gas turbine (“CCGT”) plants are designed to “cycle” on during peak hours and off during off-peak hours, and can adjust their output quickly in response to changes in load.¹⁰ Nuclear plants are not designed with this kind of operational flexibility. Virtually every commercial nuclear plant operates in baseload mode, *i.e.* full output whenever it is available, except in the rare event of system

⁹ Exhibit 5, ISO-NE Orientation: Electric Industry and Markets, at 63.

¹⁰ *Id.* at 64.

emergencies.¹¹ ENVY's option value thus has to be discounted to reflect the plant's inability to adjust operations to market conditions, a major constraint on ENVY's "ability to make decisions about the station in the future." Kee Dec. ¶ 34.

C. Alleged Claims of Harm to the Public Interest

29. Mr. Kee made a number of claims about the harm to the public if an injunction is not granted. I have reviewed his claims regarding: (i) loss of jobs, (ii) lower tax revenues, (iii) higher electricity prices, (iv) lower system reliability, (v) loss of RGGI income, and (vi) increased emissions.

1. Loss of jobs

30. Mr. Kee's claim of job loss relies entirely on his interpretation of three studies and ignores continuing activities at Vermont Yankee and jobs that would be created by power replacement options. In fact, certain power investments to replace Vermont Yankee could lead to a substantial gain in employment.

31. While many jobs at Vermont Yankee would be lost if the plant shuts down, some of those losses would be counteracted by the employees needed to conduct a variety of necessary on-site activities after shutdown. These activities could include monitoring the plant, overseeing fuel cooling, constructing dry storage casks, transferring spent fuel, expanding the spent fuel storage area, ensuring security, and eventually decommissioning the plant.

¹¹ According to the Nuclear Energy Institute, the U.S. nuclear fleet achieved an average capacity factor of over 90% for the past ten years and almost 91% for the past five years. Exhibit 7, NEI U.S. Nuclear Generating Statistics 1971-2010 (updated April 2011). Simply speaking, a plant's capacity factor is equal to its actual generation divided by its potential generation. A plant that operated at full load one-half of the time would have a 50% capacity factor, as would a plant that operated at one-half of its full load all of the time.

32. Additionally, Mr. Kee’s analysis does not take into account the jobs that would be created by any replacement resources in case Vermont Yankee retires. For example, merchant power plant developers may construct new generation, Vermont utilities could pursue their options, or ISO-NE could implement a reliability solution that could entail new generation, increased energy efficiency, and/or new sources of imported power. Any of these replacement resources would require construction and operating jobs. Below, I review the three studies relied on by Mr. Kee, which do not support his conclusions concerning job loss.

IBEW Study (Kee Ex. 6)

33. The International Brotherhood of Electricity Workers (“IBEW”) Study, Kee Ex. 6, did not address either of the issues discussed above – the on-site jobs that would be needed post-shutdown and any jobs created by replacement resources. Hence the IBEW Study provided an incomplete employment analysis resulting from a shutdown of Vermont Yankee.

Consensus Study (Kee Ex. 9)

34. Mr. Kee refers to the conclusion of the Consensus Study, Kee Ex. 9, that “a shutdown of Vermont Yankee Station would result in a loss of about 1,060 jobs on average over the period from 2013 to 2031 (prior to implementation of the SAFSTOR decommissioning option) and a loss of about 950 jobs with the implementation of the SAFSTOR decommissioning option.” Kee ¶ 40. Mr. Kee reached this conclusion by comparing the Consensus Study’s Shutdown Scenario (without any replacement capacity) to the Consensus Study’s Relicense Scenario. These are only two of the four scenarios in the Consensus Study. The Consensus Study also included a Green Scenario (Vermont

Yankee retired and replaced by renewable resources and energy efficiency measures) and a Hybrid Scenario (Vermont Yankee relicensed and renewables and energy efficiency measures implemented).

35. There are a number of limitations inherent in the Consensus Study that call Mr. Kee's conclusions into question. First, the Study does not specify the portion of jobs that are direct or indirect. Second, it does not specify what staffing level was assumed after shutdown for the various plant activities I enumerated above. Third, the Shutdown Scenario is unrealistic, since there will be jobs associated with replacement merchant generation or ISO-NE's reliability solution. Thus, the Consensus Study projected a significant loss of jobs only in the unrealistic case that Vermont Yankee is shut down and no replacement resources are implemented.

36. Further, Mr. Kee ignores the job growth described in the Consensus Study due to renewable resources and energy efficiency measures in scenarios other than Shutdown Scenario. The Green Scenario assumed the shutdown of Vermont Yankee in March 2012 as well as "very aggressive legislative and agency support for the development of in-State renewable energy power generating sources and energy efficiency expenditures." Consensus Study, Kee Ex. 9 at 4. According to the Consensus Study, the Green Scenario "[p]rovides, on average, comparable employment levels relative to the VY Relicense scenario during the first decade of the analytic period and then rapidly outpaces the VY Relicense scenario over the final 17 years. Annual employment differentials relative to the VY Relicense case exceed 2,600 jobs by the end of the forecast horizon in 2040." *Id.* at 10. Employment would also increase under the Hybrid Scenario. By ignoring these two scenarios, Mr. Kee biased his conclusions regarding potential job loss.

GDS Study (Kee Ex. 7)

37. Mr. Kee relies on the GDS Study, Kee Ex. 7, to claim that jobs would be gained if Vermont Yankee continued to operate, as compared to early closure. However, Mr. Kee again ignores (i) the jobs required for the on-site plant activities I enumerated above, and (ii) the jobs that could be created if Vermont Yankee were replaced by local, renewable resources. In fact, Portfolio 2 – New and Expanded Renewable Generation, defined in Chapter 12 of the GDS Study, would certainly provide construction and operating jobs.¹² Kee Ex. 7 at 12-21—12-24. While the GDS Study did not estimate the number of jobs for Portfolio 2, Mr. Kee’s analysis simply ignores the fact that jobs would be created.

2. Lower Tax Revenue

38. Mr. Kee cites the GDS Study, the Consensus Study, the IBEW Study, and the Vermont Legislative Joint Fiscal office (“JFO”) Issue Brief as evidence that closure of Vermont Yankee would result in lower state tax revenues. Kee Dec. ¶¶ 42-46. It is unrealistic, however, to assume that Vermont Yankee tax revenues would fall to zero upon shutdown, since there would be some on-site activities for many years. In addition, the GDS Study, the IBEW Study, and the JFO Issue Brief merely quantify the tax revenue related to Vermont Yankee, and make no attempt to quantify the tax revenue from replacement resources. As I explained earlier, it is also plausible to assume that tax revenues from Vermont Yankee will be replaced, to some extent, from replacement resources.

¹² GDS Portfolio 2 would be comprised of biomass, hydro, wind, landfill gas, anaerobic digesters, and solar resources.

39. As discussed above, the Consensus Study presents findings for four scenarios, but Mr. Kee compares only the Shutdown Scenario and the Relicense Scenario. If he had instead compared the Shutdown Scenario to the Green Scenario, he would have found negative fiscal impacts of \$2 - \$3 million per year for the first few years, but by the end of the study period there would be positive fiscal impacts of \$30 - \$40 million per year. Kee Ex. 9 at 12. According to the Green Scenario in the Consensus Study, the cumulative impact of a shutdown on a present value basis through 2040 is a positive \$10 million. *Id.* Therefore, a plausible conclusion from the Consensus Study is that a shutdown of Vermont Yankee would result in lower tax revenues in the near term, but higher tax revenues in the long term.

3. Higher End-User Electricity Prices

40. Mr. Kee's claim that "the early closure of Vermont Yankee Station would mean higher electricity prices in the region," Kee ¶ 47, is not supported by the studies and other sources on which he relied. In fact, as explained below, there is substantial evidence in those studies and sources indicating that electricity prices may be lower if Vermont Yankee shuts down.

The Axelrod Study

41. Mr. Kee cites the Axelrod Study (Kee Ex. 10) for the proposition that "statewide Vermont average retail electricity prices might increase" if VY were closed and replaced with electricity from a gas-fired CCGT power plant. Dr. Axelrod's analysis is fatally flawed, however, due to his assumption that the electricity from Vermont Yankee would be replaced, hour-by-hour, by an equal amount of electricity from a replacement CCGT plant.

42. The ISO-NE power system does not operate the way that Dr. Axelrod assumed. The Axelrod Study assumes that the replacement CCGT plant would operate in baseload mode. ISO-NE, however, economically dispatches power plants according to their energy bids.¹³ This method of “economic dispatch” is commonly used throughout the power industry worldwide and was, in fact, incorporated in the Consensus Study provided as Kee Exhibit 9. Under economic dispatch, plants with low operating costs and low energy bids (such as Vermont Yankee) are dispatched to operate “baseload” around the clock. “Mid-merit” or intermediate load plants with higher operating costs and energy bids (such as CCGTs) are dispatched less often, typically during on-peak hours during the week. Peaking plants have the highest operating costs and energy bids, and thus operate relatively few hours during system peaks and emergencies. The last plant dispatched in any hour sets the ISO-NE market clearing price for that hour, and all power plants operating in that hour receive the same (uniform) price for the energy they provide.¹⁴ Thus, changes in the ISO-NE power market can have significant impacts on the total monies spent by ratepayers if the market clearing price changes and is applied to wholesale energy generated and consumed in that hour.

43. Mr. Kee describes economic dispatch in his Declaration. *See, e.g.*, Kee Dec. ¶ 54 (“When electricity demand is high (e.g. in the middle of the day), more expensive units are dispatched and the market clearing price is higher. When demand is low (e.g. in the middle of the night), less expensive units are dispatched and the market clearing price is lower.”). Nuclear power plants, such as Vermont Yankee, have low operating costs, submit low energy bids, are dispatched around-the-clock, and thus have

¹³ *See* Exhibit 8, ISO-NE Wholesale Electricity Markets (WEM 101) at 33 (2010).

¹⁴ Energy prices may be adjusted for line losses and congestion that can require a plant to be dispatched out-of-merit order. ISO-NE refers to energy prices as Locational Marginal Prices (“LMPs”).

high capacity factors.¹⁵ Gas-fired CCGT plants have higher operating costs, submit higher energy bids, are dispatched less frequently, and thus have lower capacity factors.¹⁶ In fact, according to ISO-NE's Internal Market Monitor, nuclear power plants in the region had an average capacity factor of 92.27% in 2009 while gas-fired GT and CCGT plants had an average capacity factor of 38.99%.¹⁷ In spite of this, the Axelrod Study ignored the fact that ISO-NE economically dispatches power plants and thus CCGT plants operate for fewer hours than Vermont Yankee. His overly simplistic analysis cannot be the basis for any credible estimate of the impact of Vermont Yankee's retirement on regional electricity prices.

44. The Axelrod Study contains an additional problematic assumption. The Study assumed that the expected levelized cost of power from the CCGT plant would be \$111.29/MWh but provided no basis or explanation for this value.¹⁸ In my opinion, Dr. Axelrod's cost assumption is implausibly high. First, Dr. Axelrod's assumption is inconsistent with the GDS Study, which estimated the levelized cost of power from a CCGT plant to be about \$54/MWh, less than one-half of Dr. Axelrod's assumption. See GDS Study, Kee Ex. 7 at 12-21. Second, the Electric Power Research Institute released an update of its Technical Assessment Guide ("EPRI TAG") less than a year after Dr. Axelrod published his estimate. The levelized electricity cost for a CCGT plant in the EPRI TAG was in the range of \$74 – \$89/MWh, based on a price for natural gas of \$8 –

¹⁵ Capacity factors are discussed in footnote 11.

¹⁶ "Generator supply offers are influenced by production costs and supplier operating characteristics. For most electricity generators, the cost of fuel is the largest variable production cost, and as fuel costs change, the prices at which generators submit offers in the marketplace change correspondingly." Exhibit 16, ISO-NE 2009 Annual Markets Report at 28.

¹⁷ *Id.* at 133.

¹⁸ Kee Ex. 10 at 29. A levelized cost includes all capital and operating costs, and is spread over the plant's economic life using a levelization rate that reflects the cost of capital.

\$10/MMBtu.¹⁹ At the current gas commodity price of about \$4.50/MMBtu, the corresponding levelized electricity cost would be less than \$50/MWh.²⁰ In summary, the power market findings in the Axelrod Study ignored the realities of economic dispatch and used an implausibly high CCGT cost, and therefore do not support Dr. Kee’s conclusion that retiring Vermont Yankee in 2012 “might” lead to higher electricity prices in Vermont.

The Consensus Study

45. The Consensus Study (Kee Exhibit 9) does not, as Mr. Kee states, “confirm[] that closing the Vermont Yankee Station would cause an increase in electricity prices.” Kee Dec. ¶ 50. First, as discussed above, *see* ¶¶ 34-36, *supra*, the Consensus Study evaluated four Vermont Yankee scenarios. Mr. Kee, however, only relied on the first scenario, in which Vermont Yankee retires, in concluding that retirement would increase prices. As explained above, *see* ¶¶ 12-13 *supra*, if Vermont Yankee retires, there will be either replacement merchant generation capacity or an ISO-NE reliability solution. This was not addressed in the Consensus Study retirement scenario. Second, the Consensus Study qualified its finding regarding the impact if Vermont Yankee were to retire without replacement capacity, observing that “the retail power bill is likely to be higher in the event of plant closure,” Kee Ex. 9 at 9 (emphasis added). A qualified finding cannot “confirm[]” that electricity prices would increase. Third, under the Green (renewable resource) Scenario, retail power bills would be higher for the first five years and then would be “substantially lower in the out years.” *Id.* at 10. In summary, the

¹⁹ Exhibit 17, G. Ramachandran, Program on Technology Innovation: Integrated Generation Technology Options, Technical Update, November 2009, Document No. 1019539, at 1-15.

²⁰ According to the New York Mercantile Exchange (“NYMEX”), the forward 12 month strip for natural gas was about \$4.50/MMBtu as of May 10, 2011. My levelized cost calculation provided as Exhibit 9.

Consensus Study offered a broad range of possible outcomes, but did not “confirm[]” that closing Vermont Yankee would cause an increase in electricity prices.

4. Higher wholesale electricity prices

46. Contrary to Mr. Kee’s conclusion, ISO-NE did not “confirm[]” that closing Vermont Yankee would increase wholesale prices. Kee Dec. ¶ 55. The document Mr. Kee relied on, a summary of ISO-NE’s Forward Capacity Auction (“FCA”) for 2013-14 (Kee Ex. 18) makes clear that there is a range of generation, transmission, and demand-side alternatives to the continued operation of Vermont Yankee. While ISO-NE noted that “[a]ll these options will come at an additional cost,” Kee Ex. 18 at 2, additional cost does not necessarily imply that wholesale electricity prices will increase. For example, one long-term option, energy efficiency, typically has an up-front cost and then reduces energy consumption and lowers wholesale electricity clearing prices for all ratepayers. The Green Scenario in the Consensus Study supports this example. *See* Kee Ex. 9 at 10. Another option, a new source of imported power, would have a cost but would affect wholesale electricity clearing prices due to the associated change in regional economic dispatch. For example, baseload imported power would displace more expensive resources and decrease wholesale electricity clearing prices. Without a reliable quantitative analysis to support his conclusion, Mr. Kee cannot claim that ISO-NE “confirms” that wholesale electricity market prices would increase if Vermont Yankee retires.

5. Higher Prices in Electricity Agreement

47. Mr. Kee concludes that “long-term electricity purchase agreements may have higher prices if the Vermont Nuclear Station is closed.” Kee Dec. ¶ 56 (emphasis added). His primary source for this qualified conclusion, the GDS Study, states that

“[u]nder a Vermont Yankee retirement scenario (post-2012), replacement power would need to be procured and the cost for that power would likely be higher than what would result under a scenario where the Vermont Yankee plant was relicensed.” Kee Dec. ¶ 57 (quoting GDS Study, Kee Ex. 7 at 12-10). However, the GDS Study goes on to compare several potential portfolios to replace Vermont Yankee: Portfolio 1: New Fossil Fuel Generation; Portfolio 2: New and Expanded Renewable Generation; Portfolio 3: Continued Operation of Vermont Yankee; and Portfolio 4: New Imports. *See* Kee Dec. Ex. 7, § 12.6 at 12-20 – 12-27. *See* Kee Ex. 7, § 12.6 at 12-20—12-27.

48. For Portfolio 1, GDS estimated the levelized cost of power from a new CCGT to be \$54.06/MWh. For Portfolio 2, which contained a variety of local, renewable generation resources, GDS estimated the levelized cost of power to be \$73.19/MWh. GDS did not provide an estimate of the levelized cost of Vermont Yankee power (*i.e.*, Portfolio 3), but I was able to calculate that value. GDS assumed that Vermont Yankee output would be sold at “near market price, discounted to reflect the revenue sharing agreement between Entergy and the two large Vermont Utilities.” GDS did not predict what the discount would be but considered three cases in which the discount ranged from 5% to 25% and provided forecasts of the dollar amounts for each of those discounts. This provided me with sufficient data to calculate GDS’ forecast of undiscounted market power prices equivalent to a levelized market power price of \$100.84/MWh.²¹ At the maximum 25% discount postulated by GDS, the levelized price of Vermont Yankee output would be \$75.63/MWh. Thus the lowest levelized cost of Vermont Yankee power would be greater

²¹ I used the discount rates contained in the Concentric Energy Advisors (“CEA”) Report, Vermont Utilities Technical and Cost Issues of Generation Alternatives, Phase One of a Two-Phase Report, January 18, 2008, referenced in the GDS Study and from which GDS took its levelized cost values. My workpaper with this calculation is provided as Exhibit 10.

than the \$54.06/MWh levelized cost of power from Portfolio 1 (New Fossil Fuel Generation) and the \$73.19/MWh levelized cost of power from Portfolio 2 (Expanded Renewable Generation). Based on these calculations, the GDS Study indicates that Vermont Yankee power would be more expensive than other generation options. I question the accuracy of Mr. Kee's statement that "The GDS Study supports my conclusion that early closure of the Vermont Yankee Station would result in higher prices for electricity." According to my calculations of GDS' cost of power, Vermont Yankee would be more expensive than GDS Portfolios 1 and 2.

49. Mr. Kee also relies on the GDS Report to claim that new Hydro-Quebec imports will likely be more expensive than Vermont Yankee in the future. *See* Kee ¶ 57. However, the GDS Report was submitted on February 27, 2009, before the new Hydro-Quebec and ENVY contract prices were established. Furthermore, as I explained earlier, *see* ¶¶ 17-20 *supra*, these two contract prices cannot be compared without making appropriate adjustments, which Mr. Kee failed to do.

50. Nor does the 2009 Vermont Energy Plan provide solid ground to conclude that prices will increase if Vermont Yankee shuts down. Indeed, Mr. Kee's observation that the Plan indicates that "Vermont may be exposed to more price uncertainty and volatility," Kee Dec. ¶ 58 (emphasis added), is speculative. In addition, uncertainty and volatility work both ways, and can lead to lower prices as well as higher prices. Thus the 2009 Vermont Energy Plan does not support Mr. Kee's claim that electricity prices will be higher if Vermont Yankee shuts down.

6. Cost of Transmission Upgrades

51. Mr. Kee also claims that electricity prices will be higher due to the costs of transmission upgrades that would be passed on to customers, noting that “ISO-NE acknowledges that the closure of the Vermont Yankee Station would likely require some transmission system upgrades to address reliability issues...and to facilitate imports of electricity.” Kee Dec. ¶¶ 59-60 (citing Kee Ex. 19, Memo to Consumer Liaison Group Coordinating Committee from Carolyn O’Connor re “Answers to Questions on Vermont Yankee and Kleen Energy,” ISO-NE, May 5, 2010). However, that memo, discussing ISO-NE’s 2020 Vermont / New Hampshire Needs Assessment, states that problems will arise in the Vermont grid with or without Vermont Yankee, absent transmission upgrades: “The Needs Assessment demonstrates that even with Vermont Yankee in operation, absent upgrades to the transmission system, under certain conditions in the future, there will be operational problems with the grid in Vermont.” Kee Ex. 19 (emphasis added). While the ISO-NE Memo suggests that without Vermont Yankee certain problems may be more pronounced, *see id.*, it makes clear that the cost of transmission upgrades must be borne regardless of Vermont Yankee’s continued operation. Mr. Kee cannot claim that transmission upgrades are due to Vermont Yankee’s retirement.

52. The Memo also makes clear that ISO-NE is taking a broad look at possible solutions beyond transmission upgrades:

A Solutions Study is currently underway and is expected to be complete by the end of 2010. This study will identify cost effective transmission solutions to the problems identified in the Needs Assessment. New generation, transmission and demand-side resources that have made commitments to the region through the Forward Capacity Market will be analyzed as components to the potential solutions.

Id. Further, a February 17, 2011 Summary of the ISO-NE Solutions Study confirmed that (i) transmission problems exist “with or without Vermont Yankee in service” and (ii) the recommended solution could entail “new generation, increased energy efficiency, and new sources of imported power, all of which could help address system reliability issues.” Kee Ex. 23.

7. Vermont’s RGGI Income

53. In ¶ 62, Mr. Kee claimed that if Vermont Yankee were shut down, state revenues from the Regional Greenhouse Gas Initiative (“RGGI”) would likely be lower, because “these RGGI revenues are due to the state’s low level of carbon emissions.” Mr. Kee was wrong in both his understanding of RGGI and his conclusion. Each of the RGGI states was allocated an initial annual carbon dioxide allowance budget when the RGGI Memorandum of Understanding was executed in December 2005. Vermont’s annual RGGI budget was set at 1,225,830 allowances.²² In accordance with the Memorandum of Understanding, Vermont’s annual RGGI budget will remain constant through 2014 and then decrease by 2.5% per year from 2015 through 2018.²³ During this period of time, Vermont’s annual RGGI budget will not be affected by changes to in-state generation.

54. Each state can sell or otherwise distribute its RGGI allowances according to the state’s own statutes. Vermont sells essentially all of its RGGI allowances at quarterly auctions to generators, industrial emitters, and other parties, and derives revenues from these auction proceeds. These RGGI allowances are fungible so that generators, industrial emitters, and other parties can purchase and trade these allowances across participating states. Because each participating state’s annual RGGI allowance budget is based on

²² Exhibit 11, RGGI Memorandum of Understanding, § 2.C, State Emission Caps.

²³ *Id.*, § 2.D, Scheduled Reductions.

historic emissions, and not the current mix of generation resources, energy consumption, or CO₂ emissions within the state, the shutdown of Vermont Yankee would have no direct bearing on Vermont's RGGI revenues.

55. Indirectly, the shutdown of Vermont Yankee could actually increase Vermont's RGGI revenues. For example, if Vermont Yankee were to be replaced by a new fossil-fired generator, *e.g.* a gas-fired CCGT as was assumed in the Axelrod Study (Kee Ex. 10), the demand for RGGI allowances would increase (because the CCGT would require allowances that Vermont Yankee did not require) and the auction clearing price would tend to increase. In that event, the RGGI revenues of all states that participate in the allowance auction, including Vermont, would increase. On the other hand, if Vermont Yankee were to be replaced by renewable resources and energy efficiency that had no CO₂ emissions, there would be no impact on the demand for RGGI allowances and Vermont's RGGI revenues would not change.

8. Electric System Reliability

56. Mr. Kee's claim that "[t]he early closure of the Vermont Yankee Station would likely mean lower bulk electricity system reliability in New England," does not properly account for ISO-NE's responsibility to maintain the reliability of the New England bulk power system. ISO-NE is responsible for ensuring the reliability of the New England bulk power system complies with the Reliability Standards set by North American Electric Reliability Corporation ("NERC") and Northeast Power Coordinating Council ("NPCC").²⁴ ISO-NE has broad authority to take whatever actions are necessary to meet

²⁴ NERC is the electric reliability organization certified by FERC to establish and enforce reliability standards for the North American bulk power system. NERC's reliability standards ensure that the bulk power system (i) is able to supply the aggregate electrical demand and energy requirements of the customers at all times and (ii) is able to withstand sudden disturbances such as electric short circuits or unanticipated

those standards. The critical issue for ISO-NE is ensuring that its Reliability Standards are met, not whether system reliability is “higher” or “lower” than it was at another point in time. According to ISO-NE’s filing to FERC on the results of the most recent FCA, “[i]f the Vermont Yankee license is not extended, the ISO will take whatever actions are necessary to maintain the reliability of the New England electric system.” Kee Ex. 25c. In other words, a 2012 closure of Vermont Yankee would not threaten the reliability of the New England system under ISO-NE’s Reliability Standards.

57. Mr. Kee misinterpreted ISO-NE’s rejection of ENVY’s dynamic delist bid. ISO-NE assigns Capacity Supply Obligations through its Forward Capacity Market mechanism. This mechanism was designed to ensure long-term resource adequacy by procuring supply-side and demand-side capacity resources on a three-year forward basis. Capacity is procured using a descending clock auction in which all existing resources are presumed to be entered. Existing resources that participate in the FCA through the last round without submitting delist bids are considered to have cleared the auction. ENVY, as noted by Mr. Kee, submitted a delist bid that was rejected by ISO-NE. Under ISO-NE’s market rules, a resource that submits a delist bid that is rejected for reliability reasons is not considered to have cleared the auction.²⁵

58. A closer examination at ISO-NE’s rejection of ENVY’s delist bid puts the reliability need for Vermont Yankee into perspective. Per its planning procedures, ISO-NE conducted a transmission analysis to determine if Vermont Yankee’s capacity would

contingencies. NERC works with eight Regional Entities (formerly known as Reliability Councils) to improve the reliability of the bulk power system. NPCC is the Regional Entity responsible for the New England region.

²⁵ According to ISO-NE’s Market Rule 1, Sec. III.13.2.5.2.5, “[w]here a ... dynamic de-list bid would otherwise clear in the FCA, but the ISO has determined that some or all of the capacity associated with the ... de-list bid is needed for reliability reasons, then the de-list bid having capacity needed for reliability will not clear in the FCA.” See Exhibit 12.

be needed for reliability in 2013-2014 for both the first contingency and the second contingency tests.²⁶ Both tests assumed an extreme 2013 90/10 summer peak load and a critical resource out of service, in this case the Highgate converter station.²⁷ The Testimony of Stephen J. Rourke, VP of System Planning at ISO-NE, Kee Ex. 25a, explains the first contingency results (emphasis added):

The result of the thermal analysis shows no reliability need for Vermont Yankee for the first contingency (N-1) evaluation. In other words, without any Vermont Yankee generation and only the outage of the most critical resource in the area and the additional loss of a transmission element, all of the Vermont Load Zone can be served at 90/10 peak load conditions through imports and the remaining units.

Thus Vermont Yankee is required for reliability only under the unlikely combination of second contingency conditions, *i.e.* (i) extreme peak load, (ii) no Hydro-Quebec imports through Highgate, and (iii) the loss of the next most critical generation or transmission element.

59. Further, Mr. Kee's claim that "Entergy Vermont Yankee now has a Capacity Supply Obligation ...even if the Vermont Yankee Station is not operating" is wrong. First, all resources that clear a forward capacity auction have a Capacity Supply Obligation, but ENVY does not meet that definition because its delist bid was rejected by ISO-NE. Under its Tariff, ISO-NE has until June 1, 2012, *i.e.*, one year before the capacity commitment period, to determine whether Vermont Yankee shall be assigned a Capacity

²⁶ The first contingency analysis (N-1) includes the loss of the most critical generator or transmission element; the second contingency analysis (N-1-1) includes the loss of the most critical element followed by the loss of the next most critical element, as described in Kee Exhibit 25a.

²⁷ Under ISO-NE's Regional System Planning process, 90/10 (extreme case) peak loads have a 10% chance of being exceeded because of weather conditions. This is in contrast to 50/50 (reference case) peak loads that have a 50% chance of being exceeded because of weather conditions.

Supply Obligation for 2013-2014.²⁸ Second, Mr. Kee appears to have ignored his Exhibit 25c, ISO-NE's FERC FCA Results Filing. In this filing, ISO-NE explained the process for resolving reliability needs if Vermont Yankee cannot operate (emphasis added):

The rejection of Vermont Yankee's de-list bid in no way preempts the need for Vermont Yankee to comply with Federal and State requirements, including obtaining necessary permits and licenses, in order to continue operation. The practical impact of the rejection of the de-list bid is that if, and only if, the station's license is extended and Vermont Yankee can legally operate, then the unit must provide its capacity to New England because of the reliability violations that would occur if the plant did not operate. Put differently, neither the ISO nor the Commission can require extension of the Vermont Yankee license, nor can either entities' actions in this proceeding be deemed to require extension of the license. If the Vermont Yankee license is not extended, the ISO will take whatever actions are necessary to maintain the reliability of the New England electric system.

As I explained earlier, an ISO-NE stakeholder process and studies are well under way to develop reliability solutions in case Vermont Yankee is not relicensed.²⁹ ISO-NE has more than a year to identify and approve a solution before June 1, 2012.

9. Increased Emissions

60. The Axelrod Study does not support the conclusion that the closure of Vermont Yankee would yield higher emissions. As I explained above, the Axelrod Study assumes that all of the electricity produced by Vermont Yankee would be replaced by electricity produced by a gas-fired CCGT plant, without taking into account ISO-NE's economic dispatch of resources. See ¶¶ 41-43 *supra*. Because a dispatch simulation model would be required to reasonably estimate any change in air emissions under ISO-

²⁸ See Exhibit 14, ISO-NE's Market Rule 1, Sec. III.13.2.5.2.5.1(a)(ii): "A resource will qualify for [capacity] payment...if the ISO has not notified the resource that it is no longer needed for reliability reasons by 12:00 a.m. on June 1 of the year preceding the commencement of the Capacity Commitment Period for which the de-list bid was rejected. Once qualified under this Section III.13.2.5.2.5.1(a)(ii), the resource will have a Capacity Supply Obligation for the 12-month Capacity Commitment Period for which the de-list bid was rejected."

²⁹ See Kee Ex. 18, Final Capacity Auction Results: Surplus Resources Available for 2013-2014.

NE's economic dispatch regime, the Axelrod Study does not support the claim that emissions would increase. The other source Mr. Kee relies on, the GDS Study, presents a range of replacement scenarios, some of which would result in higher emissions (assuming replacement by a gas-fired CCGT or by imports), and some that would not (a renewable portfolio).

61. In addition, Mr. Kee focused on the change in carbon emissions if Vermont Yankee was shut down, but he ignored other emissions that should be considered in weighing the public interest. Thermal water discharges are an example of non-carbon emission. Vermont Yankee uses once-through cooling and discharges heated water to the Connecticut River year-round. Many new power plants are not permitted to use once-through cooling, and pending EPA regulations may prohibit once-through cooling for existing plants in the next few years.³⁰ Closing Vermont Yankee would eliminate this source of thermal emissions. By neglecting to consider these other emissions, Mr. Kee overlooks important public benefits that would result from closing Vermont Yankee.

I declare under penalty of perjury that the foregoing is true and correct. Executed at Boston, Massachusetts on May 23, 2011.



Seth G. Parker

³⁰ The U.S. Environmental Protection Agency is proposing, and is requesting comment on, requirements under section 316(b) of the Clean Water Act for all existing power generating facilities and existing manufacturing and industrial facilities. *See* Exhibit 15, EPA Proposed Regulations to Establish Requirements for Cooling Water Intake Structures at Existing Facilities (March 2011).