STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

IN RE:
BNE ENERGY INC. PETITION FOR A DECLARATORY RULING THAT NO CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED IS REQUIRED FOR THE CONSTRUCTION, MAINTENANCE, AND OPERATION OF A 4.8 MW WIND RENEWABLE GENERATING FACILITY LOCATED ON WINSTED-NORFOLK ROAD (ROUTE 44), COLEBROOK, CONNECTICUT

PETITION NO. 984

May 2, 2011

SUPPLEMENTAL PRE-FILED TESTIMONY OF
PAUL J. COREY ON BEHALF OF BNE ENERGY INC.

Q.1. What is the purpose of your testimony?

A. The purpose of my supplemental testimony is to provide information from ISO New England reports regarding capacity constraints and congestion in northwest Connecticut, to provide the requested information from the Siting Council concerning annual carrying charges of the Project, and to describe BNE's consultations with DEP regarding bird and bat monitoring prior to filing the petition for approval of Colebrook North with the Siting Council.

Q2. Please explain the statement in the petition that "[T]he power is domestic to Connecticut and located in Litchfield County, in and around some of the most constrained capacity areas in New England."

A. BNE was referring to several reports by ISO New England ("ISO-NE") regarding higher locational marginal prices ("LMP") for electricity in northwestern Connecticut resulting from congestion and capacity constraints in the area. Below are the relevant portions:

LMPs in northwestern Connecticut are higher than in most other areas because of limited economic generation in the area combined with limited import capacity. In general, electricity flows into northwestern Connecticut; little economic local generation is available to satisfy demand, and the loss component tends to be high. ISO-NE 2006 Annual Markets Report at 44.

LMPs differ among locations as a result of the marginal costs of congestion and losses. *Congestion* is caused by transmission constraints that limit the flow of otherwise economic power. Congestion costs arise because of the need to dispatch individual generators to provide more or less energy to respect transmission constraints. The marginal cost of losses is a result of physical losses that arise as electricity travels through the transmission lines. Physical losses are caused by resistance in the transmission system and are inherent in the existing transmission infrastructure. As with the marginal cost of congestion, the marginal cost of losses has an impact on the dispatch level of generators to minimize total system costs. If the system were entirely unconstrained and had no losses, all LMPs would be the same, reflecting only the cost of serving the next increment (in megawatts) of load. This incremental megawatt of load would be served by the generator with the lowest cost, and energy from that generator would be able to flow to any node over the transmission system. ISO-NE 2007 Annual Markets Report at 23.

On the maps in Figure 2-24, the average annual nodal LMPs are shown as color gradations from blue, representing \$51/MWh or less, to red, representing prices of \$77/MWh and higher. Western Connecticut and Southeast Massachusetts had the highest average day-ahead prices, while Maine had the lowest prices. Day-ahead and real-time LMPs in northwestern Connecticut are higher than in most other areas because of a persistent loss component associated with one of the NY-AC interface tie lines.

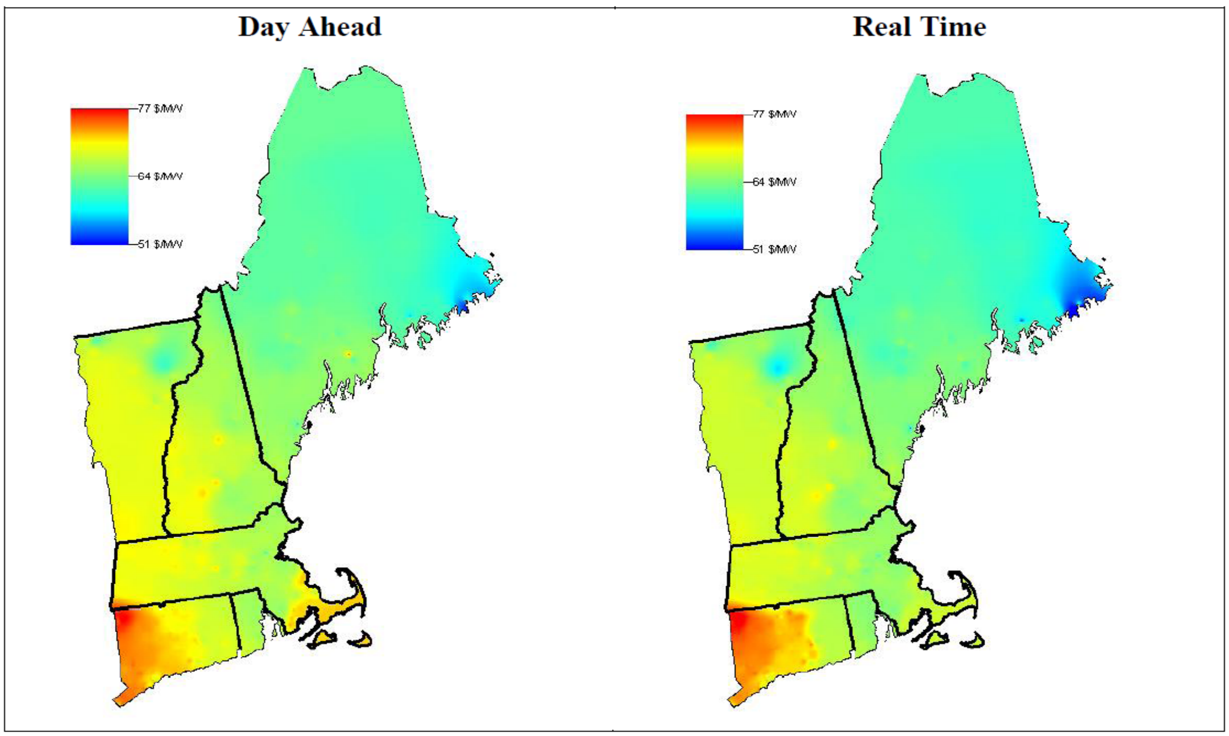


Figure 2-24: Average nodal prices, 2007, \$/MWh.

2007 Annual Markets Report at 49-50.

Below is a section from the 2007 Assessment of the Electricity Markets in New England dated June 2008 which explains prices in transmission constrained areas including four areas of Connecticut. Connecticut is divided into: East Connecticut, the portion of West Connecticut that excludes Southwest Connecticut, the portion of Southwest Connecticut that excludes Norwalk-Stamford, and Norwalk-Stamford. West Connecticut includes the area of northwest Connecticut where the project is located. The report was done by David B. Patton, Ph.D, Pallas Lee VanSchaick, Ph.D, and Potamac Economics, LTD for the Independent Market Monitoring Unit of ISO New England Inc.

B. Prices in Transmission Constrained Areas

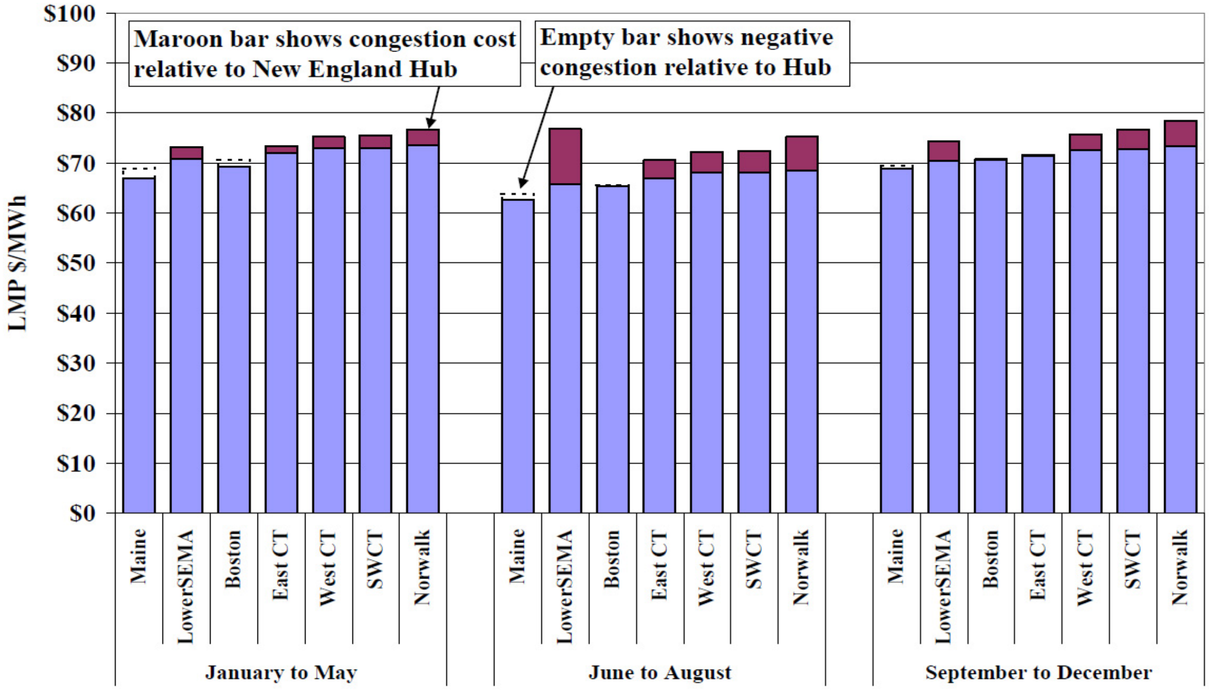
Historically, there have been significant transmission limitations between net-exporting and net importing regions in New England. In particular, exports from Maine to the rest of New England are frequently limited by transmission constraints, while Connecticut and Boston are sometimes unable to import enough power to satisfy demand without dispatching expensive local generation. Standard Market Design ("SMD") was implemented in 2003 to manage transmission constraints in an efficient manner and producing locational marginal price ("LMP") signals. In LMP markets, the variation in prices across the system reflects the marginal value of transmission losses and congestion and ensures incentives for the efficient dispatch of resources.

Losses occur whenever power flows across the transmission network. Losses are greater when power is transferred over long distances and at lower voltages. The rate of transmission losses increases as flows increase across a particular transmission facility. Transmission congestion arises when the lowest-cost resources cannot be fully dispatched because transmission capability is not sufficient to deliver their output to end-users. When congestion arises, LMP markets establish a spot price for energy at each location on the network that reflects the marginal system cost of meeting load at that location. The marginal system cost can vary substantially over the system, reflecting the fact that higher-cost units must be dispatched in place of lower-cost units to serve incremental load while not overloading any transmission facilities. This results in higher spot prices at "constrained locations" than occur in the absence of congestion.

Just as transmission constraints limit the delivery of energy into an area and require higher cost generation to operate in the constrained area, transmission constraints may also require additional operating reserves in certain locations to maintain reliability. In October 2006, the ISO implemented real-time reserve markets with locational requirements under Phase II of the ASM project, providing improved locational price signals for reserves and energy, particularly during shortages. When generation is redispatched in real-time to provide additional reserves to a local area, the marginal system cost of the redispatch is reflected in the LMPs. The reserve markets are discussed in Section V.

We analyzed the differences in energy prices between several key locations during the study period. Figure 3 shows load-weighted average day-ahead LMPs for the Maine load zone, Lower SEMA, NEMA/Boston load zone, and four areas within Connecticut. Connecticut is divided into: East Connecticut, the portion of West Connecticut that excludes Southwest Connecticut, the portion of Southwest Connecticut that excludes Norwalk-Stamford, and Norwalk-Stamford.

Figure 3: Average Day-ahead Prices by Location 2007



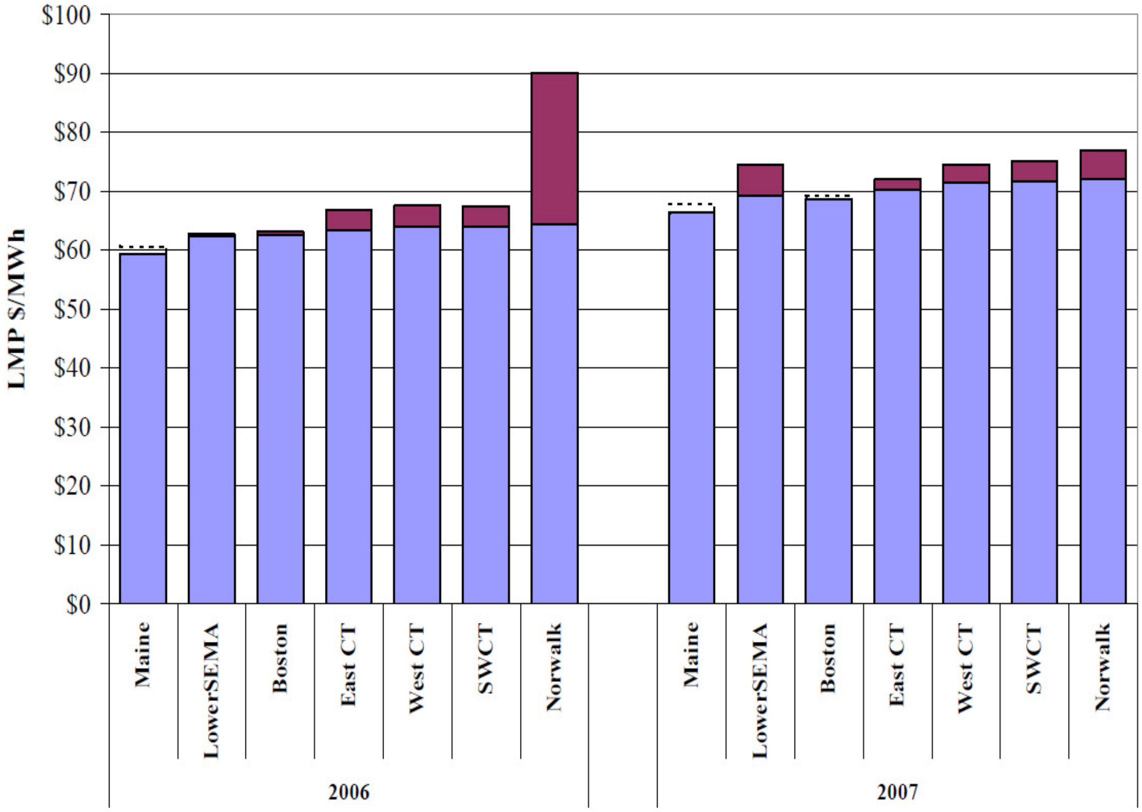
Note: The average prices reported for SWCT exclude Norwalk-Stamford, and the prices for West CT exclude SWCT and Norwalk-Stamford.

For each location, the load-weighted average LMP (including the effects of marginal transmission losses) is indicated by the height of the solid bars. The maroon portion of the bars indicates positive congestion to the location from the New England Hub, while negative congestion is indicated by the empty bars. Thus, prices in Maine are lower than the New England Hub partly due to congestion, while the other areas are load pockets that typically exhibit positive congestion from the Hub.

Of the areas shown in Figure 3, Lower SEMA was the most affected by congestion in 2007. The ISO began enforcing second contingency reliability requirements in Lower SEMA in 2006. The new requirements reduced the amount of power that could be imported to Lower SEMA from the rest of New England, leading to more frequent congestion. The second contingency requirements for the Lower SEMA area are discussed in greater detail in Sections V.C and VIII.B. Although Lower SEMA was most affected by congestion, LMPs were higher on average in some areas of Connecticut due to the effects of transmission losses.

The next figure is similar to the prior figure, but it summarizes changes in congestion patterns from 2006 to 2007.

Figure 4: Average Day-Ahead Prices by Location
2006-2007



Congestion into Norwalk-Stamford declined significantly from 2006 to 2007, which is the most notable change shown in the figure. The average congestion price difference between the New England Hub and Norwalk-Stamford decreased from more than $25 per MWh in 2006 to less than $5 per MWh in 2007. The reduction in congestion in the summer months was even more substantial: the average congestion price difference decreased from more than $60 per MWh during the summer of 2006 to $7 per MWh in 2007.

Two factors explain the dramatic reduction in congestion into Norwalk-Stamford. First, Phase I of the Southwest Connecticut 345 kV Transmission Project was completed in October 2006. The additional transmission capability reduced the need to dispatch expensive resources in Norwalk-Stamford. Second, the Peaking Unit Safe Harbor ("PUSH") offer rules expired in June 2007, leading to lower offer prices for supplies in Norwalk-Stamford.[1] The PUSH offer rules allowed owners of low capacity-factor generators in Designated Congestion Areas to include levelized fixed costs in energy offers without risk of mitigation. Since the expiration of the PUSH program in June 2007, some of the affected units have entered into Reliability Agreements with the ISO that require the units to submit offers equal to marginal cost.

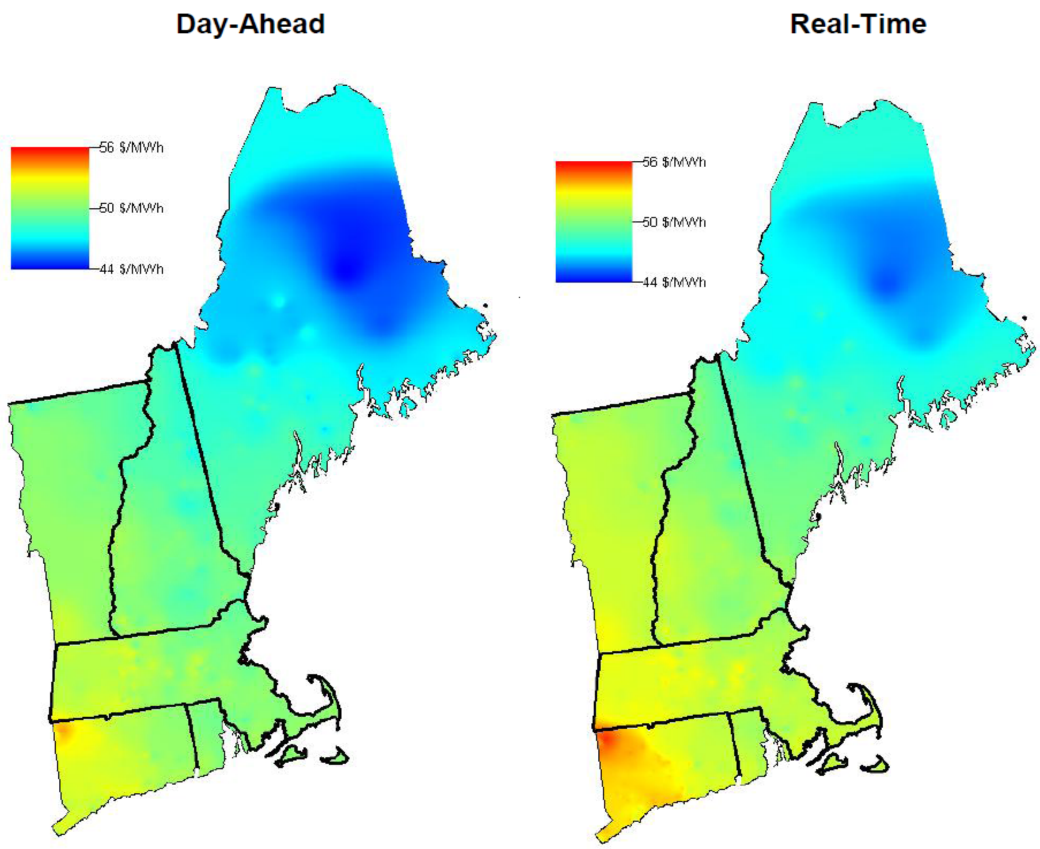
[1] PUSH rules expired June 18, 2007; the program was in effect from June 1, 2003.

There was virtually no congestion into Boston in 2007 because the NSTAR 345 kV Transmission Project was brought in-service in the spring of 2007, substantially increasing the import capability into Boston. In addition, the behavior of the largest supplier in Boston led to significant amounts of excess committed capacity in the area. This behavior is discussed in greater detail in Section VIII.B. 2007 Assessment of the Electricity Markets in New England at 20-24.

LMP prices remain higher in Connecticut than the rest of New England based on information from the latest available 2010 First Quarter, Quarterly Markets Report of the ISO-NE.

Maine had the lowest quarterly average, minimum, and maximum hourly LMP values, compared with the Hub, eight load zones, and the six external nodes that are priced in New England, while Connecticut had the highest. The low prices in the Maine load zone are in part explained by export constraints and higher marginal losses. In contrast, Connecticut's higher prices are the result of import constraints. Average quarterly nodal LMPs ranged from \$44/MWh to \$56/MWh in the Reporting Period. See section 3.1 in the statistical appendix for more information on average zonal LMPs. ISO-NE 2010 First Quarter Markets Report at 5.

On the maps in Figure 3-2, average quarterly nodal LMPs are shown in color gradations from blue (representing \$44/MWh) to red (representing \$56/MWh).



ISO-NE 2010 First Quarter Markets Report at 15.

Q.3. Please provide a reasonable estimate of the annual carrying charges of the Project.

A. A reasonable estimate of annual carrying charges for the Project is twenty percent, which includes a return on investment, cost of money, taxes, operation and maintenance, and depreciation computed on a straight line basis over a twenty year life of the Project.

Q.4. Please discuss the consultations that BNE engaged in with DEP prior to filing the petition for approval with the Siting Council for Wind Colebrook North.

A. BNE, VHB and Brown Rudnick met with representatives of DEP on March 19, 2010, to discuss environmental issues associated with BNE's wind projects in Prospect and Colebrook South. DEP's primary concern was the potential impact of the turbines on the bat population given the overall impact of the White Nosed Syndrome (WNS) on bat populations. DEP indicated that WNS affects cave-hibernating bat species, which are not likely the type of bats that may be impacted by the wind turbines, but requested that acoustic bat surveys be completed at the Project site. BNE agreed to install acoustic bat surveys at the Prospect and Colebrook South sites and to coordinate with DEP in using similar equipment, methods and metrics that DEP was planning to implement state-wide as part of a state and regional effort to understand the status of bat activity and bat populations given current information on the impact of WNS on bats. BNE and Brown Rudnick contacted representatives of DEP over the next several months to determine the type of bat monitoring equipment that DEP was planning to install, but was unable to do so. In order to avoid further delay, BNE retained WEST in June 2010 to implement bird and bat surveys for the Colebrook South project and appropriate measures were implemented. Subsequently, BNE entered into a Lease with Rock Hall Associates, LLC on July 15, 2010, for the development of Colebrook North, which is in close proximity to the Colebrook South site. See the pre-filed testimony of David Tidhar of WEST dated March 25, 2011 for a discussion of the relevancy of the bird and bats surveys of Colebrook South to the Colebrook North location. BNE, VHB and Brown Rudnick also met with representatives of DEP on October 22, 2010, to inform DEP of the progress of the wind projects including Colebrook North. DEP did not express concern at the meeting regarding the bird and bat studies that were undertaken by WEST on behalf of BNE. Additionally, pre-construction bird and bat surveys are planned to be completed at Colebrook North in the spring and fall of 2011. In addition, BNE has committed to complete postconstruction bird and bat monitoring on the site for a period of two years. See also BNE's responses to FairwindCT's Third Set of Interrogatories Q8, 10, 12, 32, and 33.

Q.5. Does this conclude your testimony?

A. Yes.

The statements above are true and accurate to the best of my knowledge.

May 2, 2011
Date

Paul J. Corey