

STATE OF NEW HAMPSHIRE
BEFORE THE PUBLIC UTILITIES COMMISSION

Public Service Company of New Hampshire
Reconciliation of Energy Service and Stranded Costs for
Calendar Year 2009

DIRECT TESTIMONY OF
DAVID A. ERRICHETTI

1 **I. INTRODUCTION**

2 Q. Please state your name.

3 A. My name is David A. Errichetti .

4 Q. Mr. Errichetti, please provide your business address and title.

5 A. My business address is 107 Selden St. , Berlin, Connecticut. I am a Manager in the
6 Wholesale Power Contracts department of Northeast Utilities Service Company
7 (NUSCo).

8 Q. Mr. Errichetti, please describe your responsibilities at NUSCO.

9 A. NUSCO provides centralized administrative services to Northeast Utilities' principal
10 subsidiaries, including Public Service Company of New Hampshire (PSNH or the
11 Company), The Connecticut Light and Power Company (CL&P), and Western
12 Massachusetts Electric Company (WMECO). I primarily manage and provide the
13 analytical support required to fulfill the supply requirement obligations of PSNH, CL&P
14 and WMECO. For CL&P and WMECO, I assist in the design and execution of the
15 power supply sourcing contracts associated with these companies' versions of energy
16 service. For PSNH, I assist in the development of the Energy Service rates, the strategy
17 used to procure energy needed to supplement PSNH's resources for the provision of
18 Energy Service, and the strategy used to acquire Financial Transmission Rights (FTR) to
19 manage congestion. I participate in ISO-NE stakeholder meetings and monitor ISO-NE,
20 NEPOOL and FERC activities to ensure that our operations are up to date.

21 **II. PURPOSE**

1 Q. What is the purpose of your testimony?

2 A. The purpose of my testimony is to report on how PSNH's generation resources and
3 supplemental purchases were used to meet PSNH's energy and capacity requirements
4 during the period January 1, 2009 through December 31, 2009. As a load-holding entity,
5 PSNH is responsible for having sufficient energy to meet the hourly needs of its
6 customers and is also responsible for its share of the ISO-NE capacity requirement.
7 PSNH meets its requirements through its owned generation, PURPA-mandated purchases
8 under short term rates and long term rate orders, and through supplemental purchases of
9 energy and capacity from the market. I will also discuss PSNH's participation in the FTR
10 auction process.

11 **III. ENERGY REQUIREMENTS**

12 Q. Please summarize the generating resources that were available to meet PSNH's energy
13 requirements.

14 A. Attachment DAE-1 lists the generating resource portfolio PSNH used to meet its
15 customers' energy requirements as of December 2009. As shown on that Attachment,
16 PSNH's available generation capacity during this time period was about 1,223 MW for
17 the summer months. The portfolio is comprised of the following resource groups:
18 hydroelectric (65 MW from nine stations), nuclear (20 MW from the Vermont Yankee
19 purchased power arrangement), coal and wood (571 MW from Merrimack and Schiller
20 Stations), oil (419 MW from Newington and Wyman 4), combustion turbines (83 MW
21 from five units), and non-utility generation (55 MW from numerous PURPA-mandated
22 purchases and 10 MW from one IPP buyout replacement contract). PSNH's resource
23 portfolio can also be categorized as Baseload (721 MW from hydroelectric, nuclear, coal,
24 wood, non-utility IPPs, and the buyout replacement contract), Intermediate (419 MW
25 from oil resources), and Peaking (83 MW from combustion turbines). PSNH also served
26 a portion of its customers' energy requirements via three (3) unit-contingent power
27 purchase arrangements (Bethlehem, Tamworth and Lempster Wind).

28 Q. Please summarize how PSNH's generation resources met PSNH's energy requirements
29 during 2009.

1 A. Attachment DAE-2 summarizes how PSNH's energy requirements were met and how
2 PSNH's generation resources were utilized by month by on-peak and off-peak periods.
3 On average, 63% of on-peak period energy requirements and 73% of off-peak period
4 energy requirements were met with the generation resources listed on DAE-1. These
5 figures also include the energy produced by Lempster Wind, which came on-line late in
6 2008. The remaining energy needs were met through spot market or bilateral market
7 energy purchases. As noted on Attachment DAE-2, the energy procured via the
8 Bethlehem and Tamworth PPAs is included in the bilateral purchase category.

9 Q. Was PSNH's generation sufficient to meet PSNH's energy requirements in every month?

10 A. No. PSNH does not own sufficient generation capability to meet its customers' energy
11 requirements and, therefore, must purchase a portion of its customers' needs. The
12 purchase requirement changes hourly and can range from zero to a significant portion,
13 depending on the availability of PSNH's resources, the level of demand, the migration of
14 customers to competitive energy service options, and the relative economics of PSNH's
15 generation versus purchase alternatives. PSNH's supplemental purchase requirement is
16 heavily influenced by the economics of Newington. When Newington's fuel expense is
17 lower than the cost of purchasing power, the unit is dispatched and PSNH's supplemental
18 need is significantly reduced. During on-peak hours, when PSNH's baseload are likely to
19 be dispatched and intermediate resources (including Newington) are more likely to be
20 dispatched, PSNH requires supplemental purchases that range from zero (during low load
21 months) to approximately 400 MW (during high load months). Typically, Newington is
22 not economic for dispatch during the off-peak hours (weekends, holidays, and weekdays
23 during hours 1-7 and 24). The resulting off-peak purchase requirement will range from
24 zero to 400 MW during the overnight hours and from zero to 600 MW during weekend
25 days. Forced and planned outages increase the need for supplemental purchases.

26 Q. Please summarize how supplemental purchases were used to meet PSNH's energy
27 requirements.

28 A. Attachment DAE-3 summarizes the purchases made to supplement PSNH's generating
29 resources. Approximately 1,189 GWh of on-peak energy were purchased bilaterally at
30 an average cost of \$98.12 per MWh (a total expense of \$116.7 million). 88% of the on-
31 peak bilateral energy was procured via fixed-price monthly contracts in order to address

1 the forecasted supplemental requirements and planned unit outages. 8% was procured
2 via fixed-price, unit-contingent contracts with the Bethlehem and Tamworth Generating
3 Plants. The remaining bilateral energy (4%) was procured via fixed-price short-term
4 arrangements (e.g. daily, weekly) to address unplanned outages and higher load periods.
5 In addition, approximately 114 GWh of on-peak energy were procured via the ISO-NE
6 hourly spot market at an average cost of \$51.89 per MWh (a total expense of \$5.9
7 million).

8 Approximately 696 GWh of off-peak energy were purchased bilaterally at an average
9 cost of \$78.74 per MWh (a total expense of \$54.8 million). 84% of the off-peak bilateral
10 energy was procured via fixed-price monthly contracts. 13% was procured via fixed-
11 price, unit-contingent contracts with the Bethlehem and Tamworth Generating Plants.
12 The remaining bilateral energy 3% was procured via fixed-price short-term arrangements
13 (e.g. daily, weekly). In addition, approximately 145 GWh of off-peak energy were
14 procured via the ISO-NE hourly spot market at an average cost of \$41.58 per MWh (a
15 total expense of \$6.0 million). The combined expense for all supplemental energy
16 purchases was \$183 million.

17 Q. Were there any hours in which PSNH's supply resources exceeded PSNH's energy
18 needs?

19 A. Yes. Attachment DAE-3 summarizes the hours in which supply resources, including
20 supplemental bilateral purchases, exceeded energy requirements resulting in sales to the
21 ISO-NE spot market. Approximately 401 GWh of on-peak energy were sold at an
22 average price of \$44.01 (total revenues of \$17.7 million). In addition, approximately
23 389 GWh of off-peak energy were sold at an average price of \$36.19 (total revenues of
24 \$14.1 million). The combined revenue for all surplus energy sales was \$31.8 million.

25 Q. Please summarize how commodity prices (oil, natural gas, and energy) varied during
26 2009.

27 A. Attachment DAE-4 is a chart of the 2009 daily prices for residual oil (1% sulfur at New
28 York Harbor), natural gas (delivered to Algonquin Gate), and bilateral energy (peak
29 hours at the Mass. HUB). The chart shows the range of commodity and energy market
30 prices in 2009. The chart also shows the clear continuing correlation between natural gas
31 prices and bilateral energy purchase prices in New England.

- 1 Q. Please summarize the impact of the commodity market volatility on the cost of serving
2 PSNH's energy requirement.
- 3 A. During 2009, approximately fifty-six percent (56%) of PSNH's energy requirements
4 were met with coal, wood, hydro, and nuclear resources. Newington is capable of
5 operating on either residual fuel oil or natural gas. Because of the diversity of its supply
6 portfolio, PSNH is largely insulated from the extreme volatility of the natural gas market.
7 Even during periods of high and volatile natural gas prices, PSNH's resource mix
8 provides price stability.

9 **IV. CAPACITY REQUIREMENTS**

- 10 Q. Please summarize the supply resources that were used to meet PSNH's capacity
11 requirements.
- 12 A. Attachment DAE-5 summarizes PSNH's monthly capacity activity. Approximately 69%
13 of PSNH's capacity needs were met with generation resources (including PSNH-owned
14 assets, non-utility IPPs, the Vermont Yankee PPA, and the Hydro-Quebec
15 Interconnection Capacity Credits). The remaining 31% was procured via ISO-NE at a
16 total cost of \$28.7 million (an average of \$3.91 per kw-mo).
- 17 Q. Please summarize the ISO-NE capacity market rules that were in effect during 2009.
- 18 A. The Forward Capacity Market (FCM) Settlement Agreement, which was approved by the
19 Federal Energy Regulatory Commission (FERC) on June 16, 2006, included an "Installed
20 Capacity Transition Period" during which all qualified capacity resources are paid a
21 negotiated fixed rate (the "Installed Capacity Transition Rate") according to the schedule
22 below. The total payments for capacity resources in each month are charged to ISO-NE
23 load serving entities based on their relative share of the prior year's peak demand.

| | |
|----------------------------------|-----------------|
| December 1, 2006 to May 31, 2007 | \$3.05/kW-month |
| June 1, 2007 to May 31, 2008 | \$3.05/kW-month |
| June 1, 2008 to May 31, 2009 | \$3.75/kW-month |
| | |

| | |
|------------------------------|-----------------|
| June 1, 2009 to May 31, 2010 | \$4.10/kW-month |
|------------------------------|-----------------|

- 1 Q. Please describe the cost impact to PSNH's customers associated with the Installed
2 Capacity Transition Period during 2009
- 3 A. During 2009, a total of 447,112 MW-months of capacity qualified for the ISO-NE
4 transition payments (this equates to a monthly average of 37,259 MWs). PSNH was
5 allocated 5.27% (23,557 MW-months) of this capacity obligation. PSNH's supply
6 resources qualified for 16,211 MW-months of capacity, comprised of owned generation
7 (13,483 MW-months), non-utility IPPs (1,334 MW-months), the Vermont Yankee
8 purchase agreement (235 MW-months), and the Hydro-Quebec Interconnection Capacity
9 Credits (1,159 MW-months). ISO-NE invoiced PSNH for the net capacity obligation of
10 7,346 MW-months, or approximately \$28.7 million (based on the rates in effect).
11 Attachment DAE-5 provides additional details
- 12 Q. Can you estimate the customer capacity savings associated with PSNH's owned
13 generation resources during 2008?
- 14 A. Yes. As noted above, PSNH's owned resources, including the Hydro-Quebec
15 Interconnection credits, provided 14,642 MW-months of capacity to ISO-NE. This
16 created over \$57.9 million in revenue which reduced the Energy Service rate.
- 17 Q. What capacity market changes will take place following the Transition Period and how
18 might the cost to PSNH's customers be affected?
- 19 A. Starting in June 2010, capacity payments to qualified resources will no longer be based
20 on the negotiated fixed transition rates listed above. Instead, market-based auctions will
21 be used to determine capacity clearing prices, with a floor on the clearing price in the first
22 three initial auctions, and as a result of recent rule changes extending for one more initial
23 auction. ISO-NE will conduct periodic competitive auctions to solicit a quantity of new
24 capacity resources that is sufficient to satisfy reliability standards. The initial auction for
25 the year beginning June 2010 was conducted in February 2008 and yielded a final
26 clearing price of \$4.50/kW-month. The initial auction for the year beginning June 2011
27 was conducted in December 2008 and yielded a final clearing price of \$3.60/kW-month.
28 The initial auction for the year beginning June 2012 was conducted in October 2009 and

1 yielded a final clearing price of \$2.951/kW-month. It is not possible to estimate the
2 outcome of future auctions, as they will be based on supplier bidding behavior. Under
3 this market design, PSNH's generation resources will continue to provide significant
4 customer savings and a valuable hedge against uncertain auction clearing prices.

5 **V. FINANCIAL TRANSMISSION RIGHTS**

6 Q. What is a Financial Transmission Right (FTR)?

7 A. An FTR is a financial instrument available to participants seeking to manage congestion
8 costs or those wishing to speculate on the difference in congestion costs between two
9 locations. These instruments have been available since the introduction of the ISO-NE
10 Standard Market Design. All FTRs are defined by a MW amount, a source location and a
11 sink location (e.g. a participant may own 100 MW of FTRs that are sourced at the
12 Merrimack node and sink at the New Hampshire load zone). For each MW of FTR, the
13 owner will receive a credit or a charge from ISO-NE equal to the difference in the
14 congestion component of the hourly LMP between the sink and the source. If the sink
15 location congestion price exceeds the source location price, the FTR will have a positive
16 value, i.e. a credit to that participants' ISO-NE settlement in that hour. Similarly, if the
17 sink location price is less than the source location price, the owner will be charged the
18 difference. For additional discussion of FTRs, please see Mr. Richard C. Labrecque's
19 testimony in Docket No. DE 04-071.

20 Q. Please summarize PSNH's participation in the ISO-NE FTR auction process.

21 A. PSNH has participated in these auctions as a method of hedging the congestion price
22 differential between the major fossil stations (Merrimack, Schiller, and Newington) and
23 the New Hampshire load zone. PSNH has also procured FTRs to hedge the differential
24 between the source location of bilateral purchases (e.g. the Massachusetts HUB) and the
25 New Hampshire load zone. PSNH's generation resources and bilateral purchases provide
26 an effective hedge against the energy component of the zonal LMP, but they do not guard
27 against a congestion component differential. Therefore, even in an hour in which PSNH
28 had sufficient resources to serve its energy requirement, it would be exposed to potential
29 congestion charges. By owning an FTR, PSNH can exchange a fixed, known payment
30 (i.e. the cost of the FTR) for a variable, unknown expense (i.e. the hour-by-hour
31 difference in the applicable LMP congestion components). During 2009, PSNH procured

1 via auction 3,451 GWh of FTRs at a net cost of \$9,590. The FTRs eliminated \$121,850
2 of congestion charges. Thus, the net impact was a decrease in Energy Service expense of
3 \$112,260.

4 Q. Will PSNH continue to participate in the FTR auction process in order to hedge against
5 unpredictable congestion costs?

6 A. Yes. FTRs serve as an insurance policy against unanticipated congestion costs. If PSNH
7 did not purchase FTRs and there was a problem on the system that resulted in congestion,
8 the cost could be several times the cost of the FTR. Therefore, it makes sense to continue
9 to purchase FTRs to manage the potentially large downside exposure to congestion costs.

10 Q. Does that complete your testimony?

11 A. Yes it does.

Attachment DAE-1

PSNH Resource Portfolio (2009)

| <u>Resource</u> | Winter Rating MW | Summer Rating MW | <u>Interest</u> | Winter Entitlement MW | Summer Entitlement MW |
|-----------------------------|------------------------|------------------------|-----------------|-----------------------------|-----------------------------|
| Amoskeag | 17.50 | 17.50 | 100% | 17.50 | 17.50 |
| Ayers | 9.08 | 9.08 | 100% | 9.08 | 9.08 |
| Canaan | 1.10 | 1.10 | 100% | 1.10 | 1.10 |
| Eastman | 6.47 | 6.47 | 100% | 6.47 | 6.47 |
| Garvins / Hookset | 14.00 | 13.61 | 100% | 14.00 | 13.61 |
| Gorham | 2.05 | 2.05 | 100% | 2.05 | 2.05 |
| Jackman | 2.37 | 2.36 | 100% | 2.37 | 2.36 |
| Smith | 16.20 | 13.07 | 100% | 16.20 | 13.07 |
| VT Yankee (note 1) | 628.00 | 604.25 | 3.33% | 20.88 | 20.09 |
| Merrimack 1 | 114.00 | 112.50 | 100% | 114.00 | 112.50 |
| Merrimack 2 | 321.75 | 320.00 | 100% | 321.75 | 320.00 |
| Schiller 4 | 48.00 | 47.50 | 100% | 48.00 | 47.50 |
| Schiller 5 | 45.82 | 43.08 | 100% | 45.82 | 43.08 |
| Schiller 6 | 48.58 | 47.94 | 100% | 48.58 | 47.94 |
| Newington | 400.20 | 400.20 | 100% | 400.20 | 400.20 |
| Wyman 4 | 610.38 | 603.49 | 3.14% | 19.19 | 18.97 |
| Lost Nation | 18.08 | 14.07 | 100% | 18.08 | 14.07 |
| Merrimack J1 | 21.68 | 16.83 | 100% | 21.68 | 16.83 |
| Merrimack J2 | 21.30 | 16.80 | 100% | 21.30 | 16.80 |
| Schiller J | 19.50 | 17.62 | 100% | 19.50 | 17.62 |
| Whitelake | 22.40 | 17.45 | 100% | 22.40 | 17.45 |
| IPP total (note 2) | 87.41 | 54.96 | 100% | 87.41 | 54.96 |
| Bio Energy (buyout, note 3) | 10.00 | 10.00 | 100% | 10.00 | 10.00 |
| Total | | | | 1,287.54 | 1,223.24 |

Notes:

- 1) Vermont Yankee entitlement contract expires March 2012.
- 2) IPP total does not include Bethlehem, Tamworth, or Lempster Wind PPAs.
- 3) Bio Energy buyout contract is for energy only (no capacity) and expires July 2015.
- 4) Hydro-Quebec firm energy contract (not shown) ended August 31, 2001 but interconnection rights and capacity credits continue.

Attachment DAE-2
PSNH Supply Resources Used to Serve Energy Requirement (2009)

On-Peak

| | <u>Energy</u> | <u>PSNH</u> | <u>Portion of Requirement Served by...</u> | | | | | | | | |
|--------|--------------------|-----------------|--|------------------|----------------|--------------|---------------------|------------------|------------------|---------------|-------------------|
| | <u>Requirement</u> | <u>Resource</u> | | | | | | | | | |
| | <u>MWh</u> | <u>Subtotal</u> | <u>IPP</u> | <u>Buyout</u> | <u>Vermont</u> | <u>Hydro</u> | <u>Merrimack</u> | <u>Newington</u> | <u>Bilateral</u> | <u>ISO-NE</u> | <u>Combustion</u> |
| | | | | <u>Contracts</u> | <u>Yankee</u> | | <u>and Schiller</u> | <u>and Wyman</u> | <u>Purchase</u> | <u>Spot</u> | <u>Turbines</u> |
| Jan | 353,075 | 77% | 6% | 0% | 2% | 4% | 50% | 15% | 19% | 4% | 0.00% |
| Feb | 295,226 | 65% | 6% | 1% | 2% | 4% | 48% | 4% | 28% | 7% | 0.00% |
| Mar | 303,286 | 79% | 9% | 1% | 2% | 6% | 60% | 0% | 20% | 1% | 0.00% |
| Apr | 290,318 | 74% | 9% | 1% | 2% | 7% | 54% | 0% | 25% | 1% | 0.00% |
| May | 257,824 | 69% | 7% | 1% | 3% | 7% | 52% | 0% | 26% | 5% | 0.00% |
| Jun | 291,889 | 72% | 7% | 1% | 2% | 6% | 55% | 1% | 28% | 0% | 0.00% |
| Jul | 327,057 | 68% | 7% | 1% | 2% | 6% | 48% | 2% | 29% | 3% | 0.00% |
| Aug | 317,525 | 36% | 5% | 1% | 2% | 5% | 20% | 3% | 54% | 10% | 0.07% |
| Sep | 260,609 | 34% | 6% | 1% | 3% | 3% | 21% | 0% | 66% | 0% | 0.00% |
| Oct | 262,830 | 42% | 7% | 1% | 3% | 5% | 24% | 2% | 57% | 2% | 0.03% |
| Nov | 240,824 | 59% | 9% | 1% | 3% | 7% | 26% | 14% | 40% | 1% | 0.00% |
| Dec | <u>308,955</u> | <u>74%</u> | <u>9%</u> | <u>1%</u> | <u>2%</u> | <u>6%</u> | <u>52%</u> | <u>3%</u> | <u>23%</u> | <u>3%</u> | <u>0.00%</u> |
| Totals | 3,509,419 | 63% | 7% | 1% | 2% | 5% | 43% | 4% | 34% | 3% | 0.01% |

Off-Peak

| | <u>Energy</u> | <u>PSNH</u> | <u>Portion of Requirement Served by...</u> | | | | | | | | |
|--------|--------------------|-----------------|--|------------------|----------------|--------------|---------------------|------------------|------------------|---------------|-------------------|
| | <u>Requirement</u> | <u>Resource</u> | | | | | | | | | |
| | <u>MWh</u> | <u>Subtotal</u> | <u>IPP</u> | <u>Buyout</u> | <u>Vermont</u> | <u>Hydro</u> | <u>Merrimack</u> | <u>Newington</u> | <u>Bilateral</u> | <u>ISO-NE</u> | <u>Combustion</u> |
| | | | | <u>Contracts</u> | <u>Yankee</u> | | <u>and Schiller</u> | <u>and Wyman</u> | <u>Purchase</u> | <u>Spot</u> | <u>Turbines</u> |
| Jan | 348,510 | 88% | 7% | 1% | 2% | 5% | 62% | 10% | 10% | 2% | 0.00% |
| Feb | 285,807 | 74% | 7% | 1% | 3% | 5% | 58% | 1% | 18% | 8% | 0.01% |
| Mar | 288,549 | 92% | 11% | 1% | 3% | 8% | 69% | 0% | 7% | 1% | 0.00% |
| Apr | 232,255 | 82% | 12% | 2% | 3% | 10% | 56% | 0% | 14% | 3% | 0.00% |
| May | 256,162 | 86% | 9% | 1% | 3% | 9% | 63% | 0% | 10% | 5% | 0.00% |
| Jun | 227,548 | 83% | 9% | 2% | 3% | 8% | 61% | 0% | 15% | 3% | 0.00% |
| Jul | 242,678 | 85% | 11% | 1% | 3% | 9% | 61% | 0% | 11% | 5% | 0.00% |
| Aug | 307,014 | 44% | 8% | 1% | 3% | 7% | 25% | 0% | 44% | 12% | 0.00% |
| Sep | 222,044 | 45% | 8% | 2% | 4% | 4% | 28% | 0% | 50% | 5% | 0.02% |
| Oct | 225,757 | 50% | 9% | 2% | 4% | 6% | 30% | 0% | 46% | 4% | 0.01% |
| Nov | 234,778 | 57% | 12% | 2% | 3% | 9% | 30% | 1% | 41% | 2% | 0.05% |
| Dec | <u>272,650</u> | <u>86%</u> | <u>11%</u> | <u>1%</u> | <u>3%</u> | <u>7%</u> | <u>62%</u> | <u>2%</u> | <u>8%</u> | <u>6%</u> | <u>0.00%</u> |
| Totals | 3,143,751 | 73% | 9% | 1% | 3% | 7% | 51% | 1% | 22% | 5% | 0.01% |

Note: "Buyout Contracts" refers to IPP Replacement Purchases (Bio Energy).

Note: "PSNH Resource Subtotal" is the sum of all columns except bilateral and Spot purchases.

Note: Lempster PPA is included in "IPPs". Bethlehem & Tamworth PPAs are in "Bilateral Purchases".

Attachment DAE-3
Summary of 2009 PSNH Bilateral and ISO-NE Spot Purchases and Sales

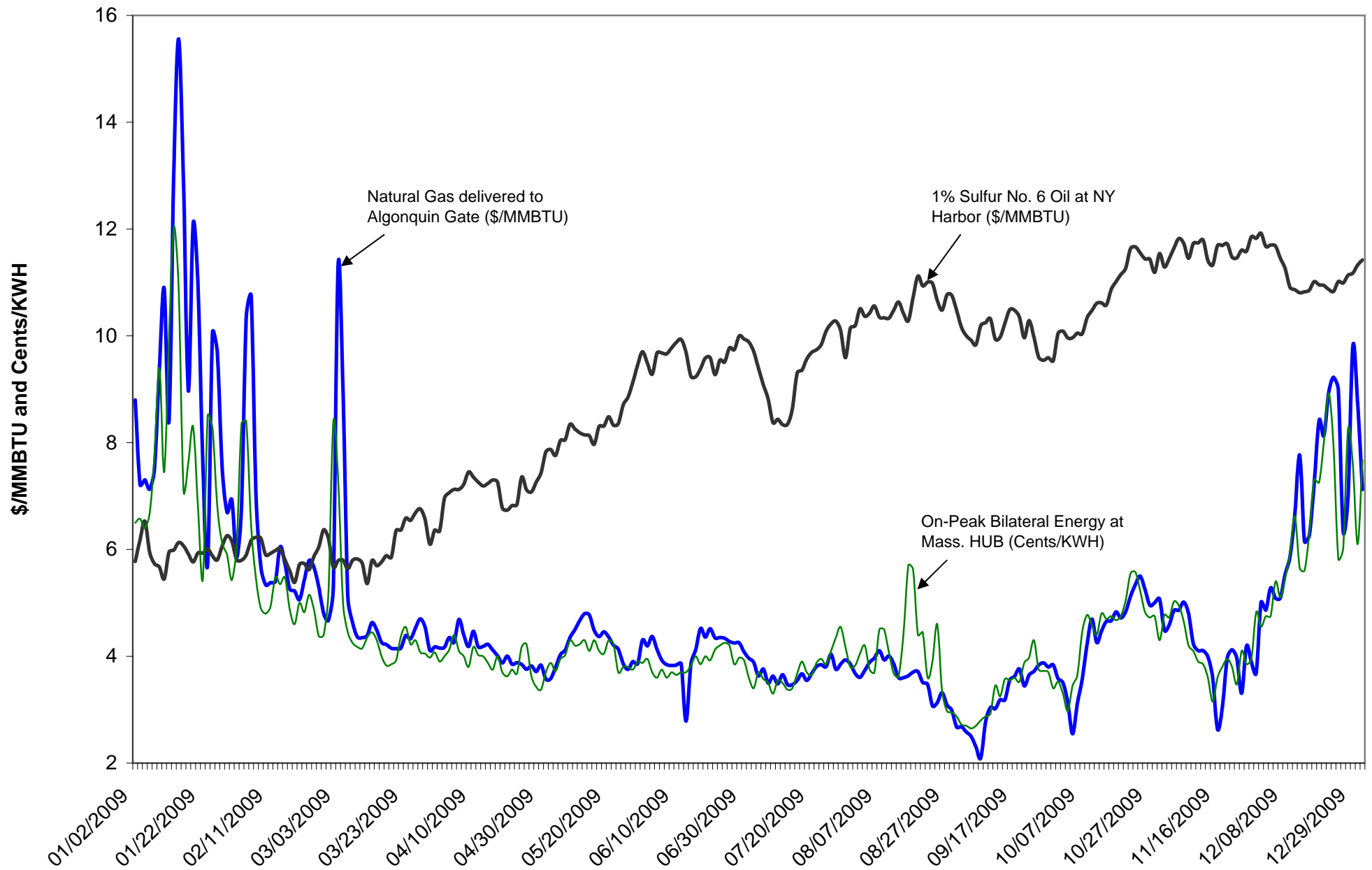
On-Peak

| | <u>Total Bilateral</u> | | | <u>Total ISO-NE</u> | | | | | |
|--------|------------------------|------------------|------------------|--------------------------|-----------------------|------------------|-----------------------|-------------------------|------------------|
| | <u>Purchases</u> | <u>Purchases</u> | <u>Avg Price</u> | <u>Total ISO-NE Spot</u> | <u>Spot Purchases</u> | <u>Avg Price</u> | <u>Total ISO-NE</u> | <u>Total ISO-NE</u> | <u>Avg Price</u> |
| | <u>MWh</u> | <u>\$000</u> | <u>\$/MWh</u> | <u>Purchases MWh</u> | <u>\$000</u> | <u>\$/MWh</u> | <u>Spot Sales MWh</u> | <u>Spot Sales \$000</u> | <u>\$/MWh</u> |
| Jan | 67,144 | 8,807 | 131.17 | 14,391 | 1,030 | 71.57 | 20,803 | 1,757 | 84.44 |
| Feb | 83,520 | 9,788 | 117.20 | 20,979 | 1,101 | 52.49 | 12,284 | 696 | 56.67 |
| Mar | 61,908 | 6,731 | 108.73 | 2,464 | 194 | 78.88 | 33,128 | 1,286 | 38.82 |
| Apr | 73,315 | 7,366 | 100.48 | 3,288 | 154 | 46.80 | 77,314 | 2,924 | 37.82 |
| May | 67,592 | 7,320 | 108.30 | 12,668 | 537 | 42.40 | 22,618 | 899 | 39.76 |
| Jun | 80,864 | 8,419 | 104.11 | 1,388 | 61 | 43.99 | 57,277 | 2,155 | 37.62 |
| Jul | 94,736 | 10,053 | 106.11 | 10,713 | 445 | 41.50 | 33,215 | 1,169 | 35.21 |
| Aug | 171,020 | 14,875 | 86.98 | 31,925 | 1,531 | 47.94 | 5,444 | 332 | 60.92 |
| Sep | 171,961 | 15,070 | 87.64 | 811 | 37 | 45.34 | 24,644 | 809 | 32.82 |
| Oct | 148,833 | 12,611 | 84.73 | 4,442 | 193 | 43.38 | 22,008 | 1,048 | 47.62 |
| Nov | 96,417 | 8,178 | 84.82 | 1,317 | 74 | 56.33 | 58,756 | 2,351 | 40.02 |
| Dec | 71,726 | 7,450 | 103.87 | 9,800 | 569 | 58.06 | 33,855 | 2,236 | 66.06 |
| Totals | 1,189,036 | 116,669 | 98.12 | 114,185 | 5,925 | 51.89 | 401,346 | 17,662 | 44.01 |

Off-Peak

| | <u>Total Bilateral</u> | | | <u>Total ISO-NE</u> | | | | | |
|--------|------------------------|------------------|------------------|--------------------------|-----------------------|------------------|-----------------------|-------------------------|------------------|
| | <u>Purchases</u> | <u>Purchases</u> | <u>Avg Price</u> | <u>Total ISO-NE Spot</u> | <u>Spot Purchases</u> | <u>Avg Price</u> | <u>Total ISO-NE</u> | <u>Total ISO-NE</u> | <u>Avg Price</u> |
| | <u>MWh</u> | <u>\$000</u> | <u>\$/MWh</u> | <u>Purchases MWh</u> | <u>\$000</u> | <u>\$/MWh</u> | <u>Spot Sales MWh</u> | <u>Spot Sales \$000</u> | <u>\$/MWh</u> |
| Jan | 36,257 | 3,714 | 102.44 | 6,779 | 460 | 67.87 | 41,042 | 2,794 | 68.07 |
| Feb | 51,484 | 5,057 | 98.23 | 21,616 | 1,028 | 47.54 | 23,552 | 996 | 42.28 |
| Mar | 20,234 | 2,080 | 102.80 | 2,840 | 163 | 57.33 | 44,209 | 1,526 | 34.51 |
| Apr | 33,349 | 3,209 | 96.22 | 7,730 | 291 | 37.62 | 56,158 | 1,586 | 28.25 |
| May | 25,047 | 2,508 | 100.12 | 11,831 | 455 | 38.49 | 45,043 | 1,406 | 31.20 |
| Jun | 33,637 | 3,178 | 94.48 | 6,054 | 193 | 31.91 | 32,390 | 899 | 27.76 |
| Jul | 26,070 | 2,660 | 102.04 | 10,946 | 354 | 32.34 | 28,846 | 712 | 24.70 |
| Aug | 136,584 | 9,715 | 71.13 | 35,841 | 1,408 | 39.29 | 9,013 | 172 | 19.10 |
| Sep | 110,354 | 7,738 | 70.12 | 12,057 | 367 | 30.41 | 13,648 | 287 | 21.05 |
| Oct | 103,261 | 6,552 | 63.45 | 8,618 | 354 | 41.04 | 22,958 | 712 | 31.00 |
| Nov | 96,421 | 6,132 | 63.60 | 5,320 | 256 | 48.19 | 32,195 | 903 | 28.04 |
| Dec | 23,083 | 2,243 | 97.15 | 15,279 | 696 | 45.56 | 39,805 | 2,078 | 52.21 |
| Totals | 695,780 | 54,787 | 78.74 | 144,914 | 6,025 | 41.58 | 388,859 | 14,071 | 36.19 |

Attachment DAE-4
2009 Daily Prices (Natural Gas, 1% Oil, Bilateral On-Peak Energy)



Attachment DAE-5
Summary of 2009 PSNH Capacity Position and Purchase Activity

| | Total ISO-NE Capacity Resources (MW) | PSNH Share of ISO-NE Obligation (%) | PSNH Share of ISO-NE Obligation (MW) | Transition Period Payment Rate (\$/MW-mo) | PSNH Capacity Expense (\$000) | PSNH Capacity Resources (MW) | PSNH Capacity Revenues (\$000) | PSNH Net Capacity Expense (\$000) |
|--------|--|---|--|---|-------------------------------------|------------------------------------|--------------------------------------|---|
| Jan | 36,395 | 5.90% | 2,148 | 3,750 | 8,055 | 1,266 | 4,746 | 3,308 |
| Feb | 36,582 | 5.81% | 2,124 | 3,750 | 7,964 | 1,267 | 4,753 | 3,212 |
| Mar | 38,631 | 5.72% | 2,212 | 3,750 | 8,293 | 1,407 | 5,277 | 3,017 |
| Apr | 38,607 | 5.59% | 2,159 | 3,750 | 8,095 | 1,409 | 5,282 | 2,812 |
| May | 38,726 | 5.49% | 2,125 | 3,750 | 7,968 | 1,405 | 5,267 | 2,701 |
| Jun | 35,826 | 5.28% | 1,893 | 4,100 | 7,761 | 1,372 | 5,626 | 2,134 |
| Jul | 35,436 | 5.18% | 1,834 | 4,100 | 7,521 | 1,354 | 5,550 | 1,971 |
| Aug | 35,363 | 5.06% | 1,790 | 4,100 | 7,338 | 1,349 | 5,532 | 1,806 |
| Sep | 35,474 | 4.94% | 1,752 | 4,100 | 7,185 | 1,348 | 5,527 | 1,658 |
| Oct | 39,076 | 4.83% | 1,888 | 4,100 | 7,741 | 1,374 | 5,633 | 2,108 |
| Nov | 39,005 | 4.75% | 1,854 | 4,100 | 7,600 | 1,393 | 5,711 | 1,890 |
| Dec | 37,989 | 4.68% | 1,779 | 4,100 | 7,294 | 1,268 | 5,197 | 2,097 |
| Totals | 447,112 | 5.27% | 23,557 | | 92,815 | 16,211 | 64,102 | 28,713 |

Note: PSNH Resources include Fossil-Hydro Assets, non-utility IPPs, Vermont Yankee and Hydro-Quebec Interconnection Credits