

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 2007

DIRECT TESTIMONY OF
RICHARD C. LABRECQUE

1 **I. INTRODUCTION**

2 Q. Please state your name.

3 A. My name is Richard C. Labrecque.

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

5 A. My business address is PSNH Energy Park, 780 N. Commercial St., Manchester, New
6 Hampshire. I am a Principal Engineer in the Regulated Wholesale Power Contracts
7 department of Northeast Utilities Service Company (NUSCO).

8 Q. Mr. Labrecque, 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 provide analytical support
13 required to fulfill the supply requirement obligations of PSNH, CL&P and WMECO. For
14 CL&P and WMECO, I assist in the design and execution of the power supply sourcing
15 contracts associated with these companies' versions of energy service. For PSNH, I assist
16 in the development of the Energy Service rates, the strategy used to procure energy and

1 capacity needed to supplement PSNH's resources for the provision of Energy Service,
2 and the strategy used to acquire Financial Transmission Rights (FTR) to manage
3 congestion. I participate in ISO-NE stakeholder meetings and monitor ISO-NE,
4 NEPOOL and FERC activities to ensure that our operations are up to date.

5 **II. PURPOSE**

6 Q. What is the purpose of your testimony?

7 A. The purpose of my testimony is to report on how PSNH's generation resources and
8 supplemental purchases were used to meet the energy and capacity requirements of
9 PSNH over the period January 1, 2007 through December 31, 2007. As a load-holding
10 entity, PSNH is responsible for having sufficient energy to meet the hourly needs of its
11 customers and is also required to have sufficient capacity available to satisfy its share of
12 the ISO-NE capacity requirement. PSNH meets its requirements through its owned
13 generation, PURPA-mandated purchases under short term rates and long term rate orders,
14 and through supplemental purchases of energy and capacity from the market. I will also
15 discuss PSNH's participation in the Financial Transmission Rights (FTR) auction
16 process.

17 **III. ENERGY REQUIREMENTS**

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

20 A. Attachment RCL-1 lists the generating resource portfolio PSNH has used to meet its
21 customers' energy requirements. As shown on that Attachment, PSNH's generation
22 during this time period was about 1,258 MW for the summer months. The portfolio is
23 comprised of the following resource groups: hydroelectric (67 MW from nine stations),

1 nuclear (20 MW from the Vermont Yankee purchased power arrangement), coal and
2 wood (570 MW from Merrimack and Schiller Stations), oil (409 MW from Newington
3 and Wyman 4), combustion turbines (83 MW from five units), and non-utility generation
4 (99 MW from numerous PURPA-mandated purchases and 10 MW from one IPP buyout
5 replacement contract). PSNH's resource portfolio can also be categorized as Baseload
6 (766 MW from hydroelectric, nuclear, coal, wood, non-utility IPPs, and the buyout
7 replacement contract), Intermediate (409 MW from oil resources), and Peaking (83 MW
8 from combustion turbines).

9 Q. Please summarize how PSNH's generation resources met PSNH's energy requirements
10 during 2007.

11 A. Attachment RCL-2 summarizes how PSNH's energy requirements were met and how
12 PSNH's generation resources were utilized by month by on-peak and off-peak periods.
13 On average, 66% of on-peak period energy requirements and 80% of off-peak period
14 energy requirements were met with the generation resources listed on RCL-1. The
15 remaining energy needs were met through spot market or bilateral market energy
16 purchases.

17 Q. Why was PSNH's generation insufficient to meet PSNH's energy requirements in every
18 month?

19 A. PSNH does not own sufficient generation capability to meet its customers' energy
20 requirement and, therefore, must purchase a portion of its customers' needs. Moreover,
21 with continued load growth, the portion of its customers' requirements that can be served
22 with a static amount of owned generation continues to decrease and the exposure to
23 market-based purchases continues to increase. The purchase requirement changes hourly

1 and can range from zero to a significant portion, depending on the availability of PSNH's
2 resources, the level of demand, the migration of customers to competitive energy service
3 options, and the relative economics of PSNH's generation versus purchase alternatives.
4 PSNH's supplemental purchase requirement is heavily influenced by the economics of
5 Newington. When Newington's fuel expense is lower than the cost of purchasing power,
6 the unit is dispatched and PSNH's supplemental need is significantly reduced. During
7 on-peak hours, when PSNH's baseload and intermediate resources (including Newington)
8 are dispatched, PSNH requires supplemental purchases that range from zero (during low
9 load months) to approximately 400 MW (during high load months). Typically,
10 Newington is not economic for dispatch during the off-peak hours (weekends, holidays,
11 and weekdays during hours 1-7 and 24). The resulting off-peak purchase requirement
12 will range from zero to 400 MW during the overnight hours and from zero to 600 MW
13 during weekend days. Forced and planned outages increase the need for supplemental
14 purchases.

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

17 A. Attachment RCL-3 summarizes the purchases made to supplement PSNH's generating
18 resources. Approximately 1,435 GWh of on-peak energy were purchased bilaterally at
19 an average cost of \$88.54 per MWh (a total expense of \$127.0 million). Eighty-six
20 percent (86%) of the on-peak bilateral energy was procured via fixed-price monthly
21 contracts in order to address the forecasted supplemental requirements and planned unit
22 outages. Four percent (4%) was procured via a fixed-price, unit-contingent contract with
23 the Bethlehem Generating Plant. The remaining bilateral energy (10%) was procured via
24 fixed-price short-term arrangements (e.g. daily, weekly) to address unplanned outages

1 and higher load periods. In addition, approximately 207 GWh of on-peak energy were
2 procured via the ISO-NE hourly spot market at an average cost of \$85.01 per MWh (a
3 total expense of \$17.6 million).

4 Approximately 733 GWh of off-peak energy were purchased bilaterally at an average
5 cost of \$75.34 per MWh (a total expense of \$55.2 million). Eighty-four percent (84%) of
6 the off-peak bilateral energy was procured via fixed-price monthly contracts. Nine
7 percent (9%) was procured via a fixed-price, unit-contingent contract with the Bethlehem
8 Generating Plant. The remaining bilateral energy (7%) was procured via fixed-price
9 short-term arrangements (e.g. daily, weekly). In addition, approximately 211 GWh of
10 off-peak energy were procured via the ISO-NE hourly spot market at an average cost of
11 \$68.91 per MWh (a total expense of \$14.6 million). The combined expense for all
12 supplemental energy purchases was \$214 million.

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

15 A. Yes. Attachment RCL-3 summarizes the hours in which supply resources, including
16 supplemental bilateral purchases, exceeded energy requirements resulting in sales to the
17 ISO-NE spot market. Approximately 179 GWh of on-peak energy were sold at an
18 average price of \$71.04 (total revenues of \$12.7 million). In addition, approximately 249
19 GWh of off-peak energy were sold at an average price of \$53.30 (total revenues of \$13.3
20 million). The combined revenue for all surplus energy sales was \$26.0 million.

21 Q. Please summarize how commodity prices (oil, natural gas, and energy) varied during
22 2007.

1 A. Attachment RCL-4 is a chart of the 2007 daily prices for residual oil (1% sulfur at New
2 York Harbor), natural gas (delivered to Algonquin Gate), and bilateral energy (peak
3 hours at the Mass. HUB). The chart shows both the significant volatility of the gas and
4 energy markets in 2007 and the elevated price levels across all commodities that persisted
5 throughout the year. The chart also shows a clear correlation between natural gas prices
6 and bilateral energy purchase prices. The daily price of residual fuel oil increased
7 steadily during the year and, since June 2007, has been more expensive per MMBtu than
8 natural gas.

9 Q. Please summarize the impact of the commodity market volatility on the cost of serving
10 PSNH's energy requirement.

11 A. During 2007, approximately fifty-eight percent (58%) of PSNH's energy requirements
12 were met with coal, wood, hydro, and nuclear resources. PSNH also owns Newington
13 Station, a 400 MW generator capable of operating on either residual fuel oil or natural
14 gas. Because of the diversity of its supply portfolio, PSNH is largely insulated from the
15 extreme volatility of the natural gas market. Even during periods of high and volatile
16 natural gas prices, PSNH's resource mix provides price stability.

17 **IV. CAPACITY REQUIREMENTS**

18 Q. Please summarize the supply resources that were used to meet PSNH's capacity
19 requirements?

20 A. Attachment RCL-5 summarizes PSNH's monthly capacity activity. Approximately 64%
21 of PSNH's capacity needs were met with generation resources (including PSNH-owned
22 assets, non-utility IPPs, the Vermont Yankee PPA, and the Hydro-Quebec

1 Interconnection Capacity Credits). The remaining 36% was procured via ISO-NE at a
2 total cost of \$27.8 million (an average of \$3.05 per kw-mo).

3 Q. Please summarize the ISO-NE capacity market rules that were in effect during 2007.

4 A. The Forward Capacity Market (FCM) Settlement Agreement, which was approved by the
5 Federal Energy Regulatory Commission (FERC) on June 16, 2006, included an “Installed
6 Capacity Transition Period” during which all qualified capacity resources are paid a
7 negotiated fixed rate (the “Installed Capacity Transition Rate”) according to the schedule
8 below. The total payments to capacity resources in each month are charged to ISO-NE
9 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

10 Q. Please describe the cost impact to PSNH’s customers associated with the Installed
11 Capacity Transition Period during 2007.

12 A. During 2007, a total of 419,432 MW-months of capacity qualified for the ISO-NE
13 transition payments (this equates to a monthly average of 34,953 MWs). PSNH was
14 allocated 5.99% (25,128 MW-months) of this capacity obligation. PSNH supply
15 resources qualified for 16,014 MW-months of capacity, comprised of owned generation

1 (13,161 MW-months), non-utility IPPs (1,455 MW-months), the Vermont Yankee
2 purchase agreement (244 MW-months), and the Hydro-Quebec Interconnection Capacity
3 Credits (1,154 MW-months). ISO-NE invoiced PSNH for the net capacity obligation of
4 9,114 MW-months, or approximately \$27.8 million (based on the \$3.05/kw-month rate in
5 effect). Attachment RCL-5 provides additional details

6 Q. Can you estimate the customer capacity savings associated with PSNH's owned
7 generation resources during 2007?

8 A. Yes. As noted above, PSNH owned resources, including the Hydro-Quebec
9 Interconnection credits, provided 14,315 MW-months of capacity to ISO-NE. This
10 created over \$43.6 million in revenue which reduced the net charge to customers.

11 Q. What capacity market changes take place following the Transition Period and how might
12 the cost to PSNH's customers be affected?

13 A. Starting in June 2010, capacity payments to qualified resources will no longer be based
14 on the negotiated fixed transition rates listed above. Instead, market-based auctions will
15 be used to determine capacity clearing prices. ISO-NE will conduct periodic competitive
16 auctions to solicit a quantity of new capacity resources that is sufficient to satisfy
17 reliability standards. The initial auction for the year beginning June 2010 was conducted
18 in February 2008 and yielded a final clearing price of \$4.50/kw-month. It is not possible
19 to estimate the outcome of future auctions, as they will be based on supplier bidding
20 behavior. Under this market design, PSNH's generation resources will continue to
21 provide significant customer savings and a valuable hedge against uncertain auction
22 clearing prices.

1 **V. FINANCIAL TRANSMISSION RIGHTS**

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

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

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

17 A. PSNH has participated in these auctions as a method of hedging the congestion price
18 differential between the major fossil stations (Merrimack, Schiller, and Newington) and
19 the New Hampshire load zone. PSNH has also procured FTRs to hedge the differential
20 between the source location of bilateral purchases (e.g. the Massachusetts HUB) and the
21 New Hampshire load zone. PSNH's generation resources and bilateral purchases provide
22 an effective hedge against the energy component of the zonal LMP, but they do not guard
23 against a congestion component differential. Therefore, even in an hour in which PSNH
24 had sufficient resources to serve its energy requirement, it would be exposed to potential

1 congestion charges. By owning an FTR, PSNH can exchange a fixed, known payment
2 (i.e. the cost of the FTR) for a variable, unknown expense (i.e. the hour-by-hour
3 difference in the applicable LMP congestion components). During 2007, PSNH procured
4 via auction 4,597 GWh of FTRs at a net cost of \$973,496. The FTRs eliminated
5 \$1,133,496 of congestion charges. Thus, the net impact was a \$160,000 decrease in
6 Energy Service expense.

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

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

14 Q. Does that complete your testimony?

15 A. Yes it does.