

**Public Service Company of New Hampshire  
Least Cost Integrated Resource Plan**

**Docket No. DE 10-261**

**Staff Responses to First Set of PSNH Data Requests to Staff**

Date Received: August 15, 2011

Date of Response: August 29, 2011

Request: PSNH 1-49

Witness: George McCluskey

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**REQUEST:**

On page 35, lines 17-20, Staff states, “Although CFLs are expected to be significantly more efficient than incandescent lamps that comply with the ESIA standard, the Market Potential scenario does not reflect the savings associated with the displacement of these more efficient incandescent lamps by CFLs.” Does Staff have any evidence that would support the conclusion that the appropriate post-ESIA baseline for determining savings is compliant incandescent lamps and not CFLs?

**RESPONSE:**

The request for evidence seems to imply that there is some dispute about whether CFLs will be significantly more efficient than incandescent lamps that comply with the ESIA standard. If so, Staff does not share that view and accordingly does not see the need for evidence.

**Public Service Company of New  
Hampshire  
Docket No. DE 10-261**

**Data Request OCA-01**

**Dated: 02/25/2011  
Q-OCA-023  
Page 1 of 1**

**Witness: Terrance J. Large  
Request from: Office of Consumer Advocate**

**Question:**

Referring to Section III-D.3 Planning Use of the Engineering Forecast on page 36, please explain how PSNH incorporates targeted load control and/or targeted energy efficiency into its decisions on whether or not a Planning Area requires additional capital investments due to projected load growth.

**Response:**

Until very recently, PSNH was prohibited by law from using SBC funds to target specific areas with load control and/or energy efficiency. PSNH has several voluntary programs which can be used to curtail load, but not in a focused manner. Regarding the planning for additional capital investments in a particular Planning Area, PSNH is relying on traditional solutions to keep the system reliable and secure. This is primarily done by adding infrastructure such as transformers and distribution lines when an part of area becomes overloaded. One way that we use load control on the system is to reduce the voltage temporarily by up to 5% across the system to reduce energy requirements when needed.

**Public Service Company of New  
Hampshire  
Docket No. DE 10-261**

**Data Request OCA-01**

**Dated: 02/25/2011  
Q-OCA-065  
Page 1 of 1**

**Witness: Robert A. Baumann, Elizabeth H. Tillotson  
Request from: Office of Consumer Advocate**

**Question:**

Section D.1.2. Treatment of Expenses and Revenues for CUO Analysis, on page 197 of Appendix G, includes the following language within the paragraph on O & M Expenses: "Direct, Loaded, Fixed O & M costs going forward are currently estimated to be less than \$7.5 million per year." Please reconcile that amount with the \$10,391,000 shown on PSNH's response to Staff 01-001, Table 1 in DE 10-257. The \$10,391,000 represented PSNH's forecast of Newington Station's O & M costs for 2011.

**Response:**

As noted on page 197 of Appendix G, PSNH still believes that the "direct, loaded, fixed O&M costs going forward" will approximate \$7.5 million per year. This is consistent with the recent actual non-fuel O&M shown in table G.1 for years 2007 [\$7.640], 2008 [\$7.863] and 2009 [\$7.697]. Actual O&M for 2010 was \$6.945 million. The four year average is \$7.5 million. The 2011 O&M of \$10.391 million shown in response Staff-01, Q-STAFF-001 in Docket No. DE 10-257 was a forecasted number based on numerous assumptions as was noted in the response:

"The revenue requirements are not typically tracked on a station or unit specific basis. In order to provide this detailed breakout, assumptions were made as to allocations to specific station or unit for items such as depreciation of common facilities, property taxes, payroll taxes, emissions allowances, materials and supplies and allocation of PSNH's and NU's administrative and general expenses. "

In addition, the O&M amounts used in response to Staff-01, Q-STAFF-001 in Docket No. DE 10-257 were provided in response to question Staff-01, Q-STAFF-003 in Docket No. DE 10-257 which noted that over 19% of the \$116 million of 2011 forecasted total O&M expenses were "allocated" to stations based on forecasted functional O&M costs as specific breakout was not available. Therefore, the actual O&M trend at Newington for the last four years is a better indicator of what PSNH believes will be the going forward costs than the forecasted 2011 costs using allocations noted in response to question Staff-01, Q-Staff-001 in Docket No. DE 10-257.

**Public Service Company of New  
Hampshire  
Docket No. DE 10-261**

**Data Request TC-01**

**Dated: 01/27/2011  
Q-TC-022  
Page 1 of 1**

**Witness: Terrance J. Large  
Request from: TransCanada**

**Question:**

Please provide a calculation of the Newington Station Net Energy Margin derived from PSNH's 2011 ES Rate Filing. Please explain any differences between that value and the \$15,756,000 shown in data request #20, above. Which value does PSNH consider to be its best projection of 2011 Net Energy Revenue for Newington Station?

**Response:**

Newington's net energy revenue projected in the 2011 ES rate filing made in December, 2010 is approximately \$1 million based on a discreet analysis using then current NYMEX forward energy market prices. It is a snapshot value which does not take into account the possibility of market price changes, as does the ROV analysis performed in the CUO study. Additionally, the Newington CUO study market energy price computation is based on NYMEX data from a different point in time. PSNH believes neither value will turn out to be correct and the analyses which led to the values are appropriate as applied.

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Date Received: August 15, 2011

Date of Response: August 29, 2011

Request: PSNH 1-7

Witness: George McCluskey

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**REQUEST:**

Please provide copies of any engagement letter or contract associated with Mr. Arnold's work in this docket.

**REQUEST:**

The Jacobs engagement letter for this proceeding, including scope of work, is attached.

## Statement of Work and Vendor Quote



### 1. Background

Public Service Company of New Hampshire (PSNH or "the Company") filed its 2010 Least Cost Integrated Resource Plan (LCIRP) on September 30, 2010 in Docket DE 10-261. The LCIRP included a Continued Unit Operation (CUO) study for PSNH's Newington Station as required by the New Hampshire Public Utilities Commission in Order No. 25,061, issued on December 31, 2009 in Docket No. DE 09-180.

Levitan & Associates, Inc. (LAI) was hired by PSNH to conduct the CUO study for Newington Station. Initially designed to burn residual fuel oil (RFO) or bunker crude, Newington Station can burn natural gas as well as RFO. In addition, the plant has operational flexibility ranging from 60 MW to 400 MW. LAI's methodology for determining the value of Newington Station takes account of these operational flexibilities.

The CUO study is based on historical and projected financial and operating data provided by PSNH. LAI was responsible for the development of an independent forecast of capacity prices in New England and the calibration of Day Ahead (DA) and Real Time (RT) energy prices and fuel prices at Newington Station to available forward market energy and fuel prices. Using these energy and fuel prices as initial equilibrium values, LAI conducted extensive modeling to estimate the value of Newington station over the ten-year planning horizon, 2011 through 2020.

### 2. Statement of Work

#### Scope

The role of Jacobs Consultancy in this proceeding is to assist Staff in its evaluation of whether LAI's modeling of the value of Newington Station is reasonable. In order to perform this task, Jacobs will first determine and then evaluate how the LAI modeling system works including understanding and evaluating: each propriety model, the inputs and outputs to those models, and how the various models interact. A particular focus of this work will be the evaluation of the following models: the Energy Hourly Prices Historical Simulation Model; the Fuels Daily Prices Monte Carlo Simulation Model, and the Dispatch Simulation Model. Based on this work, Jacobs will advise Staff whether the results of LAI's modeling reasonably represent the going forward value of Newington Station, taking into account the results of Newington's operations in recent years.

Specifically, Jacobs will provide a detailed written opinion on whether the projected increase in annual energy revenue from \$23 million in 2010 to over \$30 million in the second half of the 10 year analysis period is realistic given the relatively high heat rate for Newington Station.

In addition to reviewing and analyzing the various written and verbal descriptions of LAI's modeling system provided in the LCIRP, at technical sessions, and in response to discovery, Jacobs Consultancy, along with a Staff member of the New Hampshire Public Utilities Commission, will visit LAI's offices to interview the developers and operators of the modeling system with the goal of resolving all remaining queries. Jacobs' evaluation of LAI's modeling system will also be informed by a back-casting exercise conducted by LAI using actual 2009 and 2010 market and operations data. The back-casting exercise will require LAI to feed the 2009 and 2010 data into its model to determine whether the model is able to predict the actual operating results for Newington Station for those years. In addition to overseeing and analyzing LAI's back-casting work, Jacobs will review and approve the data used to conduct the exercise.

### **Project Schedule**

The need for extended involvement by Jacobs Consultancy in the proceeding would depend in large part on the conclusions reached by its consultant Mr. Edward Arnold. The current schedule for the case includes second round of discovery by April 29, 2011 and testimony on July 1, 2011.

### **Project Team**

Our proposed project team is comprised of experienced staff members of Jacobs who are knowledgeable in both Monte Carlo modeling and analysis as well as power plant operations.

Key project members for this assignment include:

Modeling Analysis - Edward Arnold, group manager in the refinery/fuels division of Jacobs Consultancy will provide modeling analysis, including analysis of LAI's Monte Carlo simulations.

Project Manager - Frank DiPalma, director in the utilities practice, will provide overall project direction and ensure and the quality of the engagement meets the Commission's needs.

Complete resumes for the key individuals have already been provided to the Commission.

## **Deliverables**

Based on the above described scope of work, we have identified the following list of deliverables:

Throughout the proceeding, Jacobs will keep Staff updated on the results of its review and evaluation of the modeling practices and procedures employed by LAI to estimate the value of Newington Station over the 2011-2020 period. On completion of its review and evaluation of LAI's modeling system, Jacobs will prepare a report detailing its findings and conclusions. This report will be appended to pre-filed testimony prepared by Staff with the assistance of Jacobs that summarizes the qualitative and quantitative analyses conducted by Staff and Jacobs in this proceeding together with the conclusions drawn from those analyses. If necessary, Jacobs will assist Staff in the cross examination of PSNH witnesses, present oral testimony at the hearing, and provide support to Staff in settlement discussions.

## **3. Vendor Quote**

### **Detailed Budget Proposal**

Due to uncertainty regarding the duration of the assignment and the degree of cooperation offered by LAI and PSNH, our estimate of required man-hours and cost (based on \$190/man hour rate) varies from a low of \$30,400 to a high of \$50,040. Our labor will be billed on a time and material basis and our expenses will be billed at cost without markup.

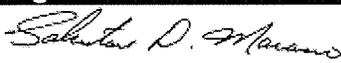
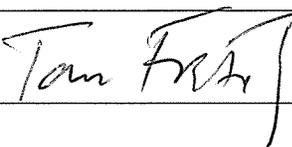
This cost estimate specifically excludes the cost of attendance at hearings and related travel. If hearings are required to be attended to assist in cross examination, present oral testimony or provide support to Staff in settlement discussions, they will be invoiced through a change order on a time and material basis and expenses billed at cost without markup.

The details of these budget estimates are provided in the schedule below.

Work Item	Low End Estimate		High End Estimate		Travel Expenses	
	Work Man- days	Travel Man- days*	Work Man- days	Travel Man- days*	Low end Estimate	High End Estimate
Analysis of LAI model system to point of being able to offer definitive due diligence ("reasonableness") advice	5	1	8	2	\$2,000	\$6,000
Set up, Monitor and Diagnose Back-Cast Effort	3.5	0.75	5	1.25	\$2,000	\$3,000
Write Up of Analysis in Report Form	3	0	5	0	\$0	\$0
Project Manager review of Report	1	0	1.25	0	\$0	\$0
Adjustment of Report Content to Fit into Testimony Format	1.5	0	2	0	\$0	\$0
Response to Questions regarding my Findings	1.75	0	2.5	0	\$0	\$0
Man hours totals	15.75	1.75	23.75	3.25	\$4,000	\$9,000
Cost totals	\$23,940	\$2,660	\$36,100	\$4,940	\$4,000	\$9,000
<b>Grand totals</b>	<b>Low End Total Cost</b>		<b>High End Total Cost</b>			
	\$30,600		\$50,040			

\* Travel time billed at full rates when traveling during business hours, unless I can do billable project work while traveling. (I always try to do and often can do project work while traveling.)

#### 4. Approval – Notice to Proceed

SOW No. 1	Name Title	Signature	Date
Jacobs Consultancy	Salvatore Marano Managing Director		May 10, 2011
NH PUC	Tom Frantz Director Electric Division		May 10 2011

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Least Cost Integrated Resource Plan**

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Date Received: August 15, 2011

Date of Response: August 29, 2011

Request: PSNH 1-17

Witness: George McCluskey

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**REQUEST:**

Referencing page 14, lines 12 – 16. Please provide the legal basis that supports your conclusion that the Commission can reduce or eliminate the return on the unrecovered balance of past capital expenditures in generating assets, or reduce or eliminate depreciation expense on those assets.

**RESPONSE:**

This request calls for a legal opinion, which is contrary to the Commission’s decision in *Consumers New Hampshire Water Company*, 82 NH PUC 365, 366 (1997) that the discovery process is primarily an opportunity to develop factual issues rather than to determine a party’s legal support for a particular position. That said, Staff notes that in Order No. 25,256 the Commission concluded that “if we determine that it is imprudent for PSNH under the circumstances to continue operation of any of its generation units, we can deny recovery of the associated costs through rates pursuant to RSA 369-B:3, IV(b)(1)(A).”