

**THE STATE OF NEW HAMPSHIRE**

**before the**

**PUBLIC UTILITIES COMMISSION**

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

**Docket DE 10-261**

**Public Service Company of New Hampshire's Brief**

June 13, 2012

Public Service Company of New Hampshire (“PSNH” or the “Company”) submits this brief, requesting that the Commission find the Company’s Least Cost Integrated Resource Plan (“LCIRP”) adequate and accept the findings in the Company’s Continuing Unit Operation study of Newington Station (“CUO”) proving that Newington Station (“Newington”) provides value to customers and thus should continue to be owned and operated by PSNH.<sup>1</sup>

## **I. The Company’s LCIRP Is Adequate**

### **A. The Standards To Be Applied To Judge The Adequacy Of The LCIRP.**

Under RSA 378:38, PSNH is obligated to file an LCIRP. The statute lists the nine items that must be addressed in the LCIRP. PSNH’s LCIRP filing follows the statute’s requirements in that there is a section of the LCIRP that corresponds to each of the sections identified in the statute. In addition to the statute, there were three orders issued by the Commission in the 2004 and 2007 LCIRP proceedings that identified additional requirements to be included in PSNH’s next LCIRP filing. PSNH has fully complied with all of those requirements. PSNH-3 at 6-7.<sup>2</sup> When considering the claims made by various parties that the Company’s LCIRP filing was inadequate, those claims must be measured against these legal requirements governing the LCIRP process.

The first order from the 2004 LCIRP proceeding, Order No. 24,695, recites “the information that PSNH must include in future LCIRP filings in order to obtain the adequacy determination required by RSA 378:39.” Order No. 24,695 at 23. As Mr. Large testified, all of those requirements have been met by the Company’s LCIRP. PSNH-3 at 7-9. The second and third orders were issued in PSNH’s 2007 LCIRP proceeding. Order No. 24,945 approved a partial settlement agreement

---

<sup>1</sup> In the Order of Notice in this docket, the Commission described the Company’s LCIRP as including the CUO and defined the issues in the docket as “whether PSNH’s planning process is adequate as defined by the requirements set forth in RSA 378:38 and 39 and Order No. 24,945 and whether it is consistent with RSA Chap. 374-F and RSA 369-B:3a.” November 3, 2010 Order of Notice at 2.

<sup>2</sup> The citations to exhibits in this Brief refer to the Bates numbered pages which appear in the lower right hand corner of the page, where Bates numbers are used.

between Staff, the Company, and TransCanada, which was upheld on rehearing. *See* Order No. 24,966.

The statute and prior Commission actions established a roadmap for this LCIRP, including requirements that the Company conduct several supply-side analyses, consider the implications of potential plug-in electric vehicle market penetration, and, most notably assess demand-side resources based on the GDS Study. Order No. 24,945 at 12-16. In addition, the Commission unequivocally stated that divestiture of PSNH's generating assets should not be included in the next LCIRP and that the plan should include an economic analysis of retirement of any generation unit only if the alternative was the investment of significant sums to meet new emissions standards and/or enhance or maintain station performance. *Id.* at 16; Order No. 24,966 at 6. With respect to new supply resources to supplement its existing generation, PSNH explained in this LCIRP that the need for analyzing new supply-side options was not necessary due to the smaller gap between resources and load that existed as a result of the lower sales forecast and higher migration levels relative to when the settlement agreement was executed and approved in DE 07-108.<sup>3</sup> The Commission has previously ruled that "it would not be appropriate to judge the adequacy of" an LCIRP by standards that go beyond those that were approved in the settlement establishing the requirements for the next LCIRP filing. *See Re: Energy North*, Order No. 24,941 at 16. That Commission precedent applies here.

**B. There Was No Disagreement On The Vast Majority Of The LCIRP.**

Notably, there was little or no disagreement or challenge to the sections of the LCIRP that addressed (1) an assessment of supply options (RSA 378:38, III); (2) an assessment of transmission requirements (RSA 378:38, IV); (3) a provision for diversity of supply sources (RSA 378:38, V); (4)

---

<sup>3</sup> "In PSNH's previous LCIRP filing, several resource types were proposed as a way to fill the gap between owned or contracted supply resources and customers' default energy service requirements. Given PSNH's current gap at the 31 percent migration level, the Company is not proposing any additional supply resources except for small scale renewable distributed generation resources, if found to be economic." PSNH-1 at 104.

the integration of demand-side and supply-side options (RSA 378:38, VI), and; (5) an assessment of LCIRP integration and impact on state compliance with the National Energy Policy Act of 1992 (RSA 378:38, VIII).

C. The Forecast Of Future Electrical Demand Is Adequate And Appropriate.

Section III of the LCIRP describes PSNH's energy and demand forecasting, and explains that PSNH produces forecasts for several different purposes. PSNH-1 at 18. For its default energy supply, PSNH forecasts hourly loads, adjusted for possible customer migration scenarios or other forecast sensitivities. The forecast is used to develop the energy, capacity, and Renewable Energy Certificate (REC) needs and supplemental purchase power requirement for default energy service customers. OCA maintains that PSNH's energy forecasting was inadequate because PSNH failed to account for the effects of residential migration. OCA-1 at 10. This conclusion fails to recognize that PSNH's energy forecast did account for a range of customer migration from zero to forty percent. Transcript "Tr." Day 1 (p.m.) at 31-32. OCA's assertion that the plan is inadequate is not based on fact; rather, it is based on the opinion that migration may exceed the upper limit of PSNH's range, a result which has not occurred. *Id.* at 103.

D. The Assessment Of Demand-Side Management Programs, Including Conservation And Load Management Programs, Met The Requirements Of The Statute And Applicable Orders.

By virtue of the settlement and the Commission's order accepting the settlement in DE 07-108, PSNH was required to base its assessment of demand side resources on the results of a study in the process of being conducted by GDS Associates at the time of the 2007 settlement to assess demand side potential in PSNH's service territory. Order No. 24,945 at 13. PSNH performed this analysis using the completed GDS Study. PSNH incorporated the GDS Study as a baseline with analysis of potentially available energy savings including non-electric savings, following the model the parties and Staff had agreed to use in the 2007 Settlement. *Id.* The GDS Study did not reflect the reduced energy savings potential resulting from the increase in efficiency standards for incandescent

lamps included in the Energy Independence and Security Act of 2007. PSNH-1 at 51. Mr. McCluskey stated it was reasonable for PSNH to make an adjustment to the potential energy savings in the GDS Study based upon the change in the lighting standard. Tr. Day 2 (p.m.) at 73-75. Staff's criticism of the demand side projections was that savings were not rising as fast as costs. Staff-2 at 38. That view fails to recognize that this result would be expected given the: (1) phase-out of highly cost-effective retail CFL rebates; (2) increase in installation of measures with higher rebates per kWh saved than CFL rebates; (3) increased program implementation costs because customer rebates were increased to 50% of the incremental measure cost, consistent with the GDS Study assumption; (4) increased expenditures to obtain non-electric savings, and; (5) increased budget for promotional and educational activities, with no corresponding increase in readily verifiable program energy savings. PSNH-3 at 13. Notwithstanding Staff's disagreement with the results, PSNH's planning was adequate since PSNH adhered to the Commission's mandate to develop the demand side portion of the LCIRP based on the GDS Study.

E. PSNH's Assessment Of Compliance With Environmental Standards In Effect In Mid-2010 Is Reasonable And Adequate.

Section IX of the LCIRP is devoted to compliance with the Clean Air Act Amendments, and Section XII contains an assessment of the LCIRP's environmental impact on the State, including an assessment of the federal Acid Rain Program, the Ozone Transport Region, the New Hampshire Clean Power Act, the Regional Haze Rule, the Clean Air Transport Rule, the Clean Air Mercury Rule, and the Clean Water Act. PSNH-1 at 133-37, 149-55. These sections meet the statutory requirement that the plan address compliance with RSA 378:38, VII and RSA 378:38, IX.

On December 28, 2010, three months after PSNH filed its LCIRP, the Commission issued a Secretarial Letter in which it – for the first time ever – announced a new standard by which it would judge the September 2010 filing. TransCanada-2. That letter noted that there was disagreement among the parties about the extent of “PSNH's obligation, if any, ‘to plan for compliance with

environmental requirements imposed or established after the date of the LCIRP's initial filing,” concluding that “as a general matter... a sound planning process should consider reasonably foreseeable regulatory changes, recognizing that the threshold at which a potential change in regulatory standards becomes too remote or speculative for a utility to consider will depend on the particular facts and circumstances of the regulatory matter at issue.” *Id.* The introduction of this new standard was contrary to the Commission’s ruling in *EnergyNorth* that the LCIRP should be based upon the standards from the statute, settlements, and orders in the prior LCIRP proceeding. Notwithstanding this late announced standard and the due process concerns that it implicates, PSNH’s LCIRP was adequate and compliant when filed in September 2010.

As Mr. Large testified, “[o]n the judgment of Mr. Smagula and Ms. Tillotson, and our assessment, we do not foresee the need for major capital investments, major investments to achieve compliance...the judgment made when this plan was filed is that there were not going to be the need for major capital investments.” Tr. Day 1 (p.m.) at 123. Mr. Smagula and Ms. Tillotson, who bring many years of experience in monitoring the regulatory environment as it applies to the Company’s generation assets, are very familiar with the regulatory process including when to begin financial planning for changes in environmental compliance. PSNH-4 at 10. The evidence was undisputed that the Company constantly monitors and evaluates environmental regulations and conducts strategic planning with respect to those requirements. *Id.* at 10, 12-13.

When the Staff and intervenors filed their testimony eight months after the LCIRP was filed<sup>4</sup>, no party presented anything more than a menu of regulations that might possibly result in an

---

<sup>4</sup> At the hearing, there were questions from the bench about the usefulness of the LCIRP process. Parties criticized the Company for being honest that this LCIRP document is not its playbook for strategic decision making. When one considers the process issues alone raised by this LCIRP, including the 2007 LCIRP settlement which has been largely ignored, the late announced standard by which the LCIRP apparently will be judged, the number of other dockets in which issues central to the LCIRP are decided in real time, and the fact that 20 months after the LCIRP was filed, there is no finality to the process itself, it would make no sense and would be imprudent for the Company to use the LCIRP document as its strategic playbook.

environmental requirement applicable to PSNH's generation operations during the planning horizon. OCA's own exhibit demonstrates that few, if any, of the regulations were even pending in 2010 when PSNH prepared its LCIRP, let alone final at the time of the hearing. OCA-1 at 49. For example, the Transport Rule does not apply to New England, Tr. Day 2 (a.m.) at 69, and the Tailoring Rule only applies to new plants or substantial additions to plants and thus does not apply to Newington. OCA-1 at 51-52. Dr. Sahu admitted that as of the hearing, there was no more finality to the regulations he discussed than when PSNH prepared its LCIRP a year earlier in the summer of 2010. Tr. Day 2 (a.m.) at 51.

That any of these potential rules would have financial impact on PSNH's generation operations was not reasonably foreseeable when PSNH compiled its LCIRP. In the context of least cost planning, the discussion of the NPDES draft permit for Merrimack Station is most revealing in its absurdity. *See* OCA-1 at 77. PSNH applied for renewal of its 1992 NPDES permit for Merrimack Station in 1997. *Id.* at 76. The NPDES permit application issue was not raised in the context of the 2004 or 2007 LCIRP filings. And yet according to the intervenors' interpretation of the "reasonably foreseeable" standard, PSNH would need to have conducted planning for all the possible outcomes from an application filed thirteen years before the plan was prepared, and that had not even been raised in prior LCIRP filings. No action was taken on that application until, after 14 years of consideration by the EPA, a draft permit was issued after PSNH's LCIRP was filed. And, that NPDES permit proceeding is still in progress, with a final decision likely to be years away. Clearly, it is unreasonable and unproductive to conduct detailed planning for proposed or potential rules that are uncertain or may never become effective. No rational decision maker would entertain such a process.

Further, the legislature could not have contemplated such a nonsensical, expensive and time consuming process when it required plans to address compliance with the Clean Air Act Amendments and environmental compliance. The operative term is "compliance." The Company's

LCIRP should only include measures necessary to *comply* with a known and final standard, not one stayed by the courts, the President, or still pending as the agency collects more information.<sup>5</sup>

Based upon the Company's experience, knowledge and continuous monitoring of the environmental regulatory conditions in effect in the summer of 2010, coupled with the pollution control equipment installed at its fossil stations, PSNH concluded that no regulation then pending presented a foreseeable requirement to conduct compliance planning to include in the 2010 LCIRP. The Commission should adopt this conclusion presented by the only experts who actually operate generating plants and find that PSNH's environmental compliance planning is adequate. To conclude otherwise would result in an unreasonable planning process whose boundaries would be vague and unpredictable.

## **II. The CUO Demonstrates Newington Station Has Significant Value To Customers.**

### **A. The CUO Conformed To The Commission's Requirements.**

The conduct of the CUO has its genesis in the Company's 2009 Energy Service docket during which Staff witness Steven Mullen recommended that the Company conduct an evaluation of Newington's costs of continued operation, in light of its declining capacity factor.<sup>6</sup> In response to his testimony, the Commission ruled that:

Having reviewed the revenues and expenses related to Newington Station, we agree with Staff that the Company should conduct a study of the costs of continuing the ownership and operation of the plant. Because PSNH stated that it will need additional time to conduct the

---

<sup>5</sup> At the hearing, the Company testified that "[t]o the extent that the obligation and the compliance requirement is clear and we can complete an analysis with enough of the inputs known, then we would move forward, because we would use the compliance period identified in that statutory requirement to anticipate full compliance by whatever the required date is." Tr. Day 1 (p.m.) at 66.

<sup>6</sup> In that docket (DE 09-180), "Mr. Mullen recommended that PSNH prepare a study regarding the benefits and costs of its continued ownership and/or operation of Newington Station and whether the plant will continue to provide benefits to PSNH customers. According to Mr. Mullen, such a study should include a forecast of plant-related revenues and expenses as well as analyses of other relevant factors such as local or regional reliability, fuel diversity, fuel and energy price forecasts, the value of the hedge provided by Newington Station, whether the hedge could be provided through alternative means and at what cost, and similar issues. As for the timing of the filing of such a study, Mr. Mullen stated that it could be filed as part of PSNH's next Least Cost Plan, as part of the current ES docket, or independently. In any event, Mr. Mullen recommended that the study be filed early enough to be reviewed and analyzed before PSNH files its next ES rate filing." Order No. 25,061 at 18.



study, and because the status of Newington Station will impact PSNH's least cost integrated resource plan currently scheduled for filing in May 2010, we direct PSNH to incorporate the study in the LCIRP to be filed no later than September 30, 2010.

Order No. 25,061 at 31. Notably, the Commission did not specify how the study should be conducted, that the model and all data contained in it should be publicly available, whether to use an independent consultant, and, if so, the method of selecting an expert to conduct the study. The only guidance the Company had to follow was the directive that it conduct "a study of the costs of continuing the ownership and operation of the plant," *id.*, and the testimony of Mr. Mullen. As described below, the CUO conformed to the type of analysis sought by Mr. Mullen and provides reliable information to the Commission about Newington's continuing value.

Despite the plain language of Order No. 25,061 and Commission precedent to the contrary, OCA claims that the CUO is not sufficient because it does not contain an analysis of retirement or divestiture. In Order No. 24,695, the Commission held that "[w]e agree with PSNH that it should not be required to evaluate the costs and benefits of divestiture in the context of its LCIRP, inasmuch as the legislature created RSA 369-B:3-a to deal specifically with divestiture of PSNH generation assets." Order No. 24,695 at 25-26. In Order No. 24,945, the Commission approved the Company's last LCIRP, finding it adequate; the Commission again addressed the issue of divestiture and whether it should be addressed in the LCIRP. Order No. 24,945. There, the Commission ruled that "we will require PSNH to include in future LCIRPs an economic analysis of retirement for any unit in which the alternative is the investment of significant sums to meet new emissions standards and/or enhance or maintain plant performance. *PSNH will not, however, be required to include an analysis of divestiture in its next LCIRP* as set forth in Order No. 24,695." *Id.* at 16 (emphasis added). This portion of the order was affirmed on rehearing, where the Commission expressly rejected OCA's view that a study of divestiture was required:

As to the timing of a Merrimack CUO, the OCA concludes from the discussion on p. 16 of Order No. 24,945 that such a study would not be performed until 2012. That conclusion is a misreading of the order and conflates the requirement for economic analyses in future

LCIRPs of “retirement for any unit in which the alternative is the investment of significant sums to meet new emissions standards and/or enhance or maintain plant performance” (which begins with the next LCIRP in 2010) and the requirement for an analysis of **divestiture**, or sale of power plants, which is not required in the next LCIRP.

Order No. 24,966 at 6-7 (emphasis in the original). The Commission should reject the position OCA advances here.

**B. It Is Undisputed That The Structure Of The CUO Model Is The Appropriate Method To Capture Newington’s Value.**

In accordance with Order No. 25,061, the Company submitted the CUO with its 2010 LCIRP. The CUO was conducted by Levitan & Associates, Inc. (“LAI”), which is nationally renowned for decision analysis as it relates to the valuation of generation and transmission assets, market design and environmental regulation. PSNH-8 at 33-63; Tr. Day 3 (a.m.) at 9-13.<sup>7</sup> In the CUO, LAI quantified the hedge benefit that Newington Station provides to customers mainly through the use of Real Option Valuation (ROV) analysis, a technique commonly applied to power plant asset valuation and for investment or retirement decisions. PSNH-1 at 206-07. It was undisputed at the hearing that the ROV analysis, which is premised on a stochastic modeling of uncertainty<sup>8</sup>, was the most appropriate method of analysis to use to capture Newington’s value.<sup>9</sup>

The analysis that was conducted is best described in the CUO itself:

A rigorous market price simulation and dispatch model simulates Newington Station across 250 uncertain future scenarios for key operating inputs and outputs. The starting point for the ROV analysis is a set of expected price forecasts for oil, natural gas, and emission allowances, and both DAM and RTM energy prices on the product side. As discussed in

---

<sup>7</sup> Further, while some of the parties have attempted to make much ado that this was LAI’s first CUO, Mr. Hachey himself explained that he “had never even heard the phrase ‘Continuing Unit Operation Study’ until this docket,” and that the CUO was nothing more than a valuation study, Tr. Day 4 (a.m.) at 94, of which the Levitan firm has done multitudes. *See e.g.*, PSNH-8 at 33-63.

<sup>8</sup> As Mr. Levitan explained at the hearing, “[s]tochastic” is the use of random number generators and a mathematical Monte Carlo type approach to sample a broad spectrum of market outcomes.” Tr. Day 3 (a.m.) at 79.

<sup>9</sup> ROV analysis is in contrast to a deterministic approach, which is an assessment of one particular scenario. ROV analysis captures value that typically goes unrecognized when traditional deterministic discounted cash flow (DCF) analysis is performed. Mr. Arnold agreed that a stochastic model is more likely to capture the ultimate future value than a deterministic model, Tr. Day 5 at 51-52, because a stochastic model provides a range of values. *Id.* at 128. As Mr. Arnold explained, a stochastic analysis “gives you a good feel, right there in the middle, of what you’re likely to have in terms of that value.” *Id.*

Section F.2.1, capacity prices are also represented for three discrete capacity price projections that are formulated to account for the uncertainty associated with both market dynamics and ISO-NE's proposed structural changes to the existing FCA. The 250 annual energy net revenue scenarios were sampled with the three discrete capacity price scenarios many times. Where possible, the forecasts are based on available market forward curves. Current and recent historical market heat rates and historical hourly price shapes were used to develop the energy hourly price projections.

To derive the value of Newington Station, LAI constructed a model that uses a mixture of probabilistic scenario analysis to simulate future capacity price scenarios, and more detailed Monte Carlo chronological analysis using daily correlated random draws to simulate oil and natural gas prices, DAM and RTM energy prices, and unit outages. Monte Carlo analysis uses computer-generated random numbers to sample from user-defined multivariate probability distributions, accounting for correlations, to simulate uncertain events or processes that unfold over time. The ROV aspect of the model is that it runs chronologically and simulates daily DA scheduling and hourly RT scheduling and fuel blending/switching decisions. The LAI model uses equal weights for each simulated scenario or random market prices and unit outages. The model simulates the two primary components of Newington Station's flexibility value:

- Ability to start relatively quickly and ramp-up or down within its wide operating capacity range, allowing the Station to bid efficiently into both the DAM and RTM.
- Ability to switch fuels on-the-fly or optimize the blend of natural gas and residual oil, accounting for the lower maximum operating capabilities at the two natural gas combustion blend thresholds.

PSNH-1 at 217-18.

The model itself consisted of a number of "sub-models," the structure of which was examined by Mr. Arnold, with the exception of the capacity price sub-model which was outside the scope of his work. Staff-1 at 66. Mr. Arnold's report confirms that with limited exceptions<sup>10</sup>, the structure of the sub-models employed by LAI were "acceptable," "reasonable," "quite reasonable" and "straightforward and reasonable." *Id.* at 60-66. In order to conduct this analysis, PSNH provided LAI with financial and operational data for Newington Station, much of which was not otherwise available in the public domain.<sup>11</sup> LAI was responsible for the development of an

---

<sup>10</sup> One exception, simulation of dispatch to provide operating reserves, was retracted by Mr. Arnold at the hearing. Tr. Day 5 at 66-67. The other exception, simulation of multiple scenarios of capital costs, is an issue of professional disagreement with the LAI witnesses. Tr. Day 3 (a.m.) at 90-91, 96; Tr. Day 3 (p.m.) at 142; Day 5 at 135-36.

<sup>11</sup> As was discussed at the hearing, there were some data corrections made during the course of review of the CUO. The data in question related to Newington's heat rate curve, which was information provided by PSNH to LAI.

independent forecast of capacity prices in New England, calibration of DA and RT energy prices and fuel prices at Newington to available forward market energy and fuel prices, and simulation of scenarios of energy and fuel prices around the expected forward prices. The evidence is undisputed that LAI has significant expertise in developing price forecasts for both energy and capacity, and that its forecasts have been relied upon by regulatory bodies in Massachusetts, Rhode Island, New York, Connecticut and New Jersey as the basis for major commercial decisions involving new generation or transmission assets. Tr. Day 3 (p.m.) at 117-18; PSNH-22; PSNH-8 at 33-63. As the Levitan witnesses explained in their rebuttal testimony, LAI's "record of performance, objectivity, and independence has resulted in many high profile engagements on commercially sensitive matters throughout the U.S., especially on matters pertaining to capacity markets throughout New England, New York, and PJM." PSNH-8 at 7. This experience is in sharp contrast with that of Mr. Arnold who was not able to cite to one state or federal regulatory proceeding in which he has presented such a forecast, Tr. Day 5 at 103, and who testified that he works mostly in refining. *Id.* at 101.

Parties criticized LAI for an alleged lack of independence in the scope of the model and its inputs, suggesting that LAI should have conducted the study without input from the Company, which provided to LAI projections of capital and fixed expenditures as well as extensive plant operating data. This view of "independence" is extremely limited, if not antithetical to the goals of the CUO which was designed to delve into the actual operations of the plant. Independence in the context of this study does not mean that LAI should have been required to perform the study in isolation of PSNH, in other words, failing to rely on PSNH staff to furnish both cost and operational data, as well as other technical insights regarding plant operations and plant scheduling in the DA or RT Market. These details are not in the public domain; moreover, absent their inclusion, there would be no way to accurately derive the ROV of Newington. A so-called "independent" consultant could no more

---

PSNH subsequently provided LAI with corrected information, which was incorporated into the model for the April 2011 revision. Tr. Day 3 (a.m.) at 37.

easily conduct an independent CUO without interacting with PSNH to gain station specific data and history. The record demonstrates that LAI did not accept without question every input provided by PSNH. For example, LAI disagreed with PSNH's assumptions about the future prices of SO<sub>2</sub> emission allowances, electing to use values substantially lower than the Company used in the LCIRP. Tr. Day 4 (a.m.) at 60. In the case of whether the Northern Pass Transmission ("NPT") project should be excluded from the model, which is discussed further below, Mr. Levitan was unequivocal that he had not just "tossed out NPT and didn't consider it being built." Tr. Day 3 (p.m.) at 153. Thus, the attack on LAI's independence is meritless and should be rejected.

C. The Results Of The CUO Demonstrate That Newington Has Ongoing Value To Customers; Those Results Are Reliable And Should Be Adopted By The Commission.

The results of the LAI model demonstrate that over the 10-year CUO study horizon (2011 to 2020), Newington has an expected net present value of benefits to customers equal to \$71.5 million. As Mr. Levitan explained at the hearing:

The threshold question before us on a risk-adjusted basis when we stochastically sample a broad spectrum of possible market outcomes or probable market outcomes: Does this unit provide economic benefits to PSNH's customers? Given the uncertainty in the energy markets, given the uncertainty about retirements, given the uncertainty about the evolving capacity markets in New England, we did our best to throw a lot of math and engineering economics at the problem. And we concluded, especially upon refinement of the initial results in April of 2011, that the unit is in the black, consistently in the black, year over year. And there are all sorts of reasons well documented in the study for that. And in calibrating the value of the product slate—capacity, energy, ancillary services, the hedge value of the asset—to kind of narrow the spectrum of financial outcomes in comparison to the out-of-pocket cash costs of continued Newington operations the conclusion was straightforward: It's in the black.

Tr. Day 3 (p.m.) at 126-27. LAI's simulation of market prices for capacity, energy and fuels also concluded that there is a 0% probability that the NPV of the benefits will be negative. PSNH-2 at 188.<sup>12</sup> While the Company's opponents placed significant emphasis on the revisions to the CUO

---

<sup>12</sup> As discussed in the CUO, one important reason for the 0% probability that the NPV of the benefits will be negative is because the risk-adjusted value of Newington's product slate is compared to the going-forward

model and data which resulted in a lower estimated net present benefit than initially determined, the fact remains that with the refinements to the model and data, the financial benefit to customers of continuing to operate Newington are significant.

Even though Staff has criticized the process, it is crucial to note that LAI re-ran the model using *Staff's assumptions* of much higher natural gas basis spreads for Dracut to Newington and higher fuel oil prices, and additional fuel use for starts and warming. That model run also demonstrated that Newington has significant net present value to customers – on the order of \$36.8 million. PSNH-11. Thus, whether using LAI's or the Staff's data assumptions, the model demonstrates Newington's significant value to customers, which cannot be ignored. Moreover, *not one party concluded that Newington should be retired, see, e.g.,* Tr. Day 4 (a.m.) at 84; Tr. Day 5 at 133, or presented any analysis that would support such a result. Even Mr. Hachey, mindful of very recent information from ISO-NE's Forward Capacity Auction #6 for Delivery Year June 1, 2015 through May 31, 2016, testified that other similar oil-fired steam units in New England, including some that only burn oil, have not retired. Tr. Day 4 (a.m.) at 111-12. Mr. Levitan asserted that of these other units, those that only burn oil and those that can burn natural gas, but are not connected to an interstate pipeline, are less valuable than Newington. Tr. Day 3 (p.m.) at 147-49.

In addition to these quantifiable benefits of continued operation of Newington, there are important qualitative benefits that should not be overlooked. These benefits include the operational flexibility to adjust bidding in the DA and RT markets, thus allowing the Company to operate Newington at critical times of high electric load and/or high energy prices, PSNH-1 at 236-37, or when natural gas is curtailed for other similar units, Tr. Day 3 (p.m.) at 147-49. As Mr. Levitan explained at the hearing, "Newington sits directly connected to PNGTS...That is a very important reliability consideration that bodes well for continued benefits to PSNH's customers, as well as those

---

incremental costs of Newington. PSNH-2 at 235. As addressed later, sunk costs are irrelevant for valuation purposes.

outside the region - - outside the state.” Tr. Day 3 (p.m.) at 149. Put differently, “[t]he problem is when the unit does operate is when you need it the most.” *Id.* at 131. Newington’s access to natural gas coupled with its valuable RFO storage capability positions PSNH’s customers favorably to realize economic and reliability benefits going forward, particularly in light of the retirement of many RFO-only units in New England that may not be able to meet stringent environmental requirements without heavy capital outlays. *Id.* at 141-42. Mr. Smagula explained that Newington does not presently face significant environmental capital outlays. *Id.* at 13-14. Mr. Levitan added that its ability to use natural gas insulates PSNH’s customers from potentially significant environmental capital costs over the CUO study period. Tr. Day 4 (a.m.) at 15. When one couples the substantial financial benefits associated with continued operation and such qualitative benefits, Newington’s continued operation is the only sensible conclusion.

Critics of the process claim that the CUO should be discarded and redone by another consultant for a variety of reasons, including allegations that the backcast analysis calls into question the validity of the model results, differing views about certain data used in the model, the appropriateness of incremental versus “all in” costs of the plant, and that “direct physical access” to the model and Bloomberg historical fuel price data were needed to allow for the model to be fully checked. As explained below, these criticisms are not valid and are nothing more than an attempt to divert attention from the study results which show significant value to the Company’s customers derived from Newington’s continued operation.

For example, the Staff makes much ado about its backcast analysis, claiming that it demonstrates that the LAI model overstates Newington’s financial performance compared to 2010 actuals. In fact, there is no evidence to support that claim. As the Levitan witnesses explain in their rebuttal testimony, the benchmark Staff used to judge the accuracy of the backcast was not the appropriate measure. First, it is the median – not the expected value from the LAI model – that is the better point predictor of any one year’s actual performance. PSNH-8 at 24-25. Messrs. Levitan and

Carlson explained that the deviation in value would have been 38% (\$3.6 million versus \$2.6 million actual) based on the median instead of the 45% deviation reported by Staff based on the expected value. *Id.* Mr. Arnold agreed with LAI that a comparison of the median backcast with the actual value is preferable and that it is regularly done by Jacobs in *its* studies. *Id.*; Tr. Day 4 (p.m.) at 51. Second, the Levitan witnesses explained that the appropriate size of the tolerance for deviation depends on the problem, rather than a universal cutoff such as the 30% used by Mr. Arnold, and that statistically-estimated fuel and energy price uncertainties indicate a larger deviation threshold is appropriate. PSNH-8 at 24-25. At the hearing, Mr. Arnold did not disagree with this context-specific approach, Tr. Day 4 (p.m.) at 52, and allowed that his "personal benchmark" may have been too restrictive. Tr. Day 5 at 117.<sup>13</sup> In addition, the backcast analysis predicted the number of expected starts for economic reasons in 2010 with dead-on precision (the backcast predicted 32 expected starts, compared to 33 days of actual starts in 2010 for economic reasons). Tr. Day 5 at 70-73; PSNH-19, 20.

Staff also claims that the model should have assumed \$20 million in capital expenditures at Newington, even though there is not a single regulation or law which currently would require that level of investment (or anything that approaches it) at the plant.<sup>14</sup> Staff's \$20 million estimate was based on information from Conservation Law Foundation, information which Mr. McCluskey recanted at the hearing, claiming that the \$20 million was merely intended to be "illustrative." Tr.

---

<sup>13</sup> In the context of predicting capacity revenue, Mr. Hachey opined that "[t]here's not a dramatic difference between" \$75 and \$111 million of capacity net present value and that the two numbers are "in the ballpark," Tr. Day 4 (a.m.) at 108, even though 111 is 48% more than 75. This supports the conclusion that the accuracy of the model is within professionally acceptable ranges.

<sup>14</sup> EPA's proposed rule regarding cooling water intake structure is not yet final and no one knows how or if the rule will ever be applied to Newington. Other proposed rules are under review, have been stayed, or are subject to litigation. One rule that does apply is the Mercury and Air Toxics Standards. Here, the regulation was proposed seven months after the CUO was filed. OCA-1 at 49. The final rule was not issued until December 2011. *Id.* Newington already has what is considered adequate for mercury and toxic metals - an electrostatic precipitator. PSNH-1 at 194; Tr. Day 3 (a.m.) at 79. Moreover, as long as Newington operates sparingly on oil or uses natural gas it is considered under MATS as a "limited use oil fired generator," so numerical emission limits do not apply. As Mr. Levitan explained at the hearing, modifying the assumptions in the financial model to account for heavy capital expenditures for environmental compliance that do not apply or can be managed by fuel selection, could lead to an erroneous determination to prematurely retire Newington. Tr. Day 3 (a.m.) at 79.



Day 5 at 105-06. As Mr. Levitan explained, had he modeled large capital expenditures at Newington for rules likely inapplicable to the plant, it would only have introduced financial skew into the model. Tr. Day 3 (a.m.) at 78-79; Tr. Day 3 (p.m.) at 142. One can only wonder whether the desire to include such assumptions in the model based on a speculative interpretation of environmental regulations is nothing more than a not-so-veiled attempt to prematurely retire the plant. As the Levitan witnesses testified, the better course of action would be to wait to see if the day arrives when such heavy capital expenditures are required, and then re-run the CUO analysis. Tr. Day 3 (a.m.) at 90. That, in fact, would be required by existing Commission orders. *See* Orders Nos. 24,945 at 16 and 24,966 at 6-7.

The same logical sensibilities apply to arguments that the LAI model is wrong because it should have included the commercialization of NPT. When the CUO study assumptions were locked down in Q3-2010, the NPT project did not have any environmental permits and had not been through the ISO-NE interconnection process. As testified by Mr. Levitan, notwithstanding NPT's early status, its inclusion in the ROV model would have resulted in financial skew, namely the possible conclusion that Newington Station should be retired. Reaching an erroneous conclusion to retire Newington can be avoided by rerunning the model at such time when NPT's timing is better known. Tr. Day 3 (p.m.) at 153-54. Were Newington retired today based on a premise that could later be proven false, there would be irreparable harm to PSNH's customers who would have lost all of the benefits of a generating facility that provides a physical hedge against market uncertainty and has significant fuel-switching reliability benefits. There is no good reason to rush to judgment.<sup>15</sup>

---

<sup>15</sup> Staff and TransCanada argue that the Commission should look to the Charles River Associates study which considered the impact of the Northern Pass Transmission line. That study, which did not include data on actual Newington operations, used older data, and was based on a pinpoint, deterministic view, as opposed to a stochastic analysis that "account[s] for all sorts of uncertainty factors in terms of market key rates, natural gas costs or oil gas parity ratios and the like," does not present a comparable analysis to the CUO. Tr. Day 3 (p.m.) at 46-48. Setting aside all of the limitations of that study, the CRA analysis demonstrates that *with or without the Northern Pass Transmission line*, there is a positive net present value of energy net revenue from Newington. Staff-2 at 3. This should not be ignored.

Consistent with industry convention, the best approach is to wait for reliable information and then see what the commercial implications are.

Importantly, there have been significant regulatory developments affecting ISO-NE's FCA, which underscore the appropriateness of the Levitan analysis. Removal of the auction price floor starting with FCA #8 constitutes a material positive change in the assessment of Newington's future revenues. The CUO analysis conservatively assumed that the floor would be removed in FCA #6. PSNH-1 at 220. Later, the LAI rebuttal assumed the floor would go away in FCA #7. PSNH-8 at 21. At the hearing, Mr. Hachey confirmed that FERC has directed that the floor remain until FCA #8 through FCA #9. Tr. Day 4 (a.m.) at 78. Clearly, retirement of Newington Station while the floor is in effect makes no economic sense. Thereafter, LAI does not believe that removal of the floor alone will warrant retirement of Newington. Contrary to Mr. Hachey's assertion that "New England will likely have excess capacity through the year 2020," TC-14 at 9, LAI believes that the effect of the floor removal would be short-lived due to capacity attrition effects upon removal of the floor price no earlier than FCA #8, which would first manifest in FCA #9. PSNH-8 at 22. Also, the October 21, 2011 RSP increased its load forecast over that of the 2010 RSP assumed in the capacity price analysis, which will likely put upward pressure on capacity prices in the latter years of the CUO. *Id.* at 21.

In response to FERC's directive, pending FCM modifications set forth by ISO-NE strengthen the case for Newington's continued operation. These include establishment of up to eight capacity zones in each FCA and mitigation of potential buyer market power. PSNH-1 at 219-20. This mitigation will be implemented by adjusting upward new Out-of-Market resource bids based on the Minimum Offer Price Rule. *Id.* at 220. Thus, LAI's assumptions in the CUO were conservative with respect to the capacity price forecast and therefore Newington's projected operating revenue derived from capacity sales.

These criticisms underscore perhaps the most important of the quantitative benefits identified in the CUO – that as long as Newington is operational, the Company’s customers benefit from the ROV associated with waiting for more information before making an irrevocable decision about the disposition of the facility. What that means is that if any environmental compliance costs do become necessary at Newington, the Company can then rerun the model in order to determine whether the value that Newington brings to customers is greater than its going forward cash costs associated with continued unit operation, given any new capital expenditures required to meet environmental standards and to maintain unit availability. But to make those decisions now would be premature. PSNH is already on notice that if significant capital must be spent at Newington, those decisions must be reviewed with the Commission in advance of that investment.

In an effort to divert attention from the results of the CUO demonstrating the significant value of Newington to customers, OCA argued that the CUO should have included an analysis of the “all in” costs of Newington, instead of an analysis of the value associated with incremental costs to operate. However, an examination of the “all in” costs – which would include the amount of any undepreciated plant and a return on that investment plus incremental operating costs – is not an appropriate basis of comparison because customers will pay for the undepreciated plant balance and a return on that investment *regardless* of whether Newington operates or retires.<sup>16</sup> Mr. Hachey

---

<sup>16</sup> Mr. McCluskey disagrees with the Company’s position, claiming that the Commission has the authority to “adjust the level of fixed cost recovery through rates” and that the adjustment “could take many forms including reducing or eliminating the return on the unrecovered balance of past capital expenditures or reducing or eliminating depreciation expense.” Staff-1 at 14. The only support that Staff provided for its position is case law from other jurisdictions which is not binding here, and that bears no factual relationship to these circumstances, and ignores the statutory mandate of RSA 369-B:3-a. PSNH-21. Those authorities are distinguishable from this case on several grounds. In *Re Portland General Electric Company*, deteriorating steam generator tubes caused a utility company to retire a nuclear power plant with close to seventeen years remaining in its expected life. 269 P.U.R. 4th 1, 2008 WL 4457778 at \*11-12 (Or. P.U.C.). The utility determined that retiring the plant and buying power for its customers was more cost effective than continuing to operate the plant. *Id.* To the contrary, Newington is highly functional and currently used and useful in the provision of utility service to the Company’s customers. *See id.* In *Re Pacific Gas and Electric*, the location of a steam-powered plant hindered its access to a reliable power source from the plant’s inception. 47 CPUC 2d 143, 1992 WL 691728 at \*264 (Cal.P.U.C.). After failed attempts to improve the “quality and quantity of steam available” to the plant, the utility ultimately discontinued payments to the steam provider, effectively retiring plant operations. *Id.* at \*265. Unlike in *Re Pacific Gas and Electric*, Newington suffers from neither locational nor power supply issues which require its retirement. *See id.* In *Re San Diego Gas*

concurred, acknowledging that when he conducts valuations for TransCanada, he adopts the same approach as LAI did – he ignores sunk costs. Tr. Day 4 (a.m.) at 95. This view is also consistent with RSA 369-B:3-a which provides that in the case of either divestiture or retirement, the Commission *must* provide for recovery of those sunk costs. As Mr. Large explained in his rebuttal testimony, this would mean that “to the extent there was any net plant balance remaining on PSNH’s books for Newington Station, PSNH would be entitled to (and the Commission would be obligated to allow) recovery of that balance from PSNH’s customers along with a return on that balance, since return is a component of the costs that utilities are allowed to recover.” PSNH-3 at 28. Therefore in deciding to continue operating the plant, it is appropriate to look only at the incremental costs going forward, since sunk costs are recovered whether the plant operates or is divested or retired. To deny PSNH recovery of a return of and on any undepreciated portion of an investment that was serving customers just prior to its retirement would result in an unconstitutional taking of PSNH’s property, in violation of the Fifth and Fourteenth Amendments to the U.S. Constitution as well as Part I, Article 12 of the New Hampshire Constitution, as discussed by the U.S. Supreme Court in *Bluefield Waterworks & Improvement Co. v. Pub. Serv. Comm’n of West Virginia*, 262 U.S. 679, 43 S.Ct. 675 (1923) and its progeny.

The remaining area of disagreement over the model relates to Staff’s claim that it required “direct physical access” to it as well as the Bloomberg price data in order to check the model. Throughout the case, Staff has been highly critical of the Company and LAI for not turning over the model to Mr. Arnold. Mr. Arnold testified at length that “[t]o answer the types of questions that I

---

*and Electric Company*, a study conducted by the San Diego Gas and Electric Company established that placing several of its plants in storage would result in cost savings to the company’s ratepayers. 20 CPUC 2d 115, 142 (Cal. Pub. Util. Comm. Dec. 20, 1985). Here, the CUO has determined that operations at Newington provide a positive benefit. *See id.* Finally, in *Re Pacific Gas and Electric Company*, operations at a retired nuclear plant were initially ceased for a scheduled refueling outage. 69 P.U.R. 4th 1, 2 (Cal. Pub. Util. Comm. Aug. 21, 1985). During the outage, the Nuclear Regulatory Commission issued an order which added two new requirements to the plant’s operating license. *Id.* The utility failed to fulfill one of those requirements, and as a result, the plant was never re-opened. *Id.* In contrast, Newington is in compliance with all of its regulatory requirements. *See id.*

was getting and expected to continue to get, somebody in my position, in my group, needs to be able to be, you know, if not alone, they have to play with the model personally.” Tr. Day 4 (p.m.) at 32.

Yet Mr. Arnold admitted that the questions he was attempting to answer were not within the scope of work in his contract, and that the contract did not state anywhere that he would need or be given direct access to the LAI model. Tr. Day 5 at 35-37. If this access was so critical, certainly the Jacobs contract should have specified that as part of the work to be conducted. Furthermore, it is completely unreasonable to expect that LAI would turn over direct access of its proprietary work product to a competitor so that they could “play with it,” especially in the absence of a contractual agreement to protect against misuse of LAI’s intellectual property.<sup>17</sup> This should have come as no surprise to Mr.

---

<sup>17</sup> Regarding Staff consultant's detailed access to the proprietary LAI model, there is ample evidence that LAI was cooperative to the extent possible without an NDA, and that Jacobs repeatedly raised new issues after earlier ones were resolved, and was extremely slow to respond to LAI's last draft NDA. As Staff-4 indicates, Staff, PSNH, and LAI had reached agreement on NDA language in the June 2, 2011 8:21 a.m. email, the day prior to the first meeting of Staff and Mr. Arnold at LAI's offices, and expected to have Jacobs' signature by the close of business that day. As described in PSNH-13, "Mr. Eaton then sent the finalized NDA to Staff. Msrs. Speidel, Arnold, and McCluskey. In the afternoon, Mr. Eaton received a reply from Ms. Jan Allen of Jacobs with a revised NDA that added a term to allow Jacobs to retain one copy of Confidential Information for legal purposes. Mr. Levitan rejected the addition of that clause and first countered that day in a revised NDA with a substitute term to allow Jacobs access to the Confidential Information if its need for litigation arose. Mr. Eaton sent Ms. Allen of Jacobs an NDA version with that language on June 2, which was not accepted." Mr. Levitan testified that "LAI worked extremely hard, without the protective cover of an NDA, to provide Staff and Jacobs Consulting a deep dive and insight into model structure functionality and assumptions. We would never normally do that. That is outside typical corporate conventions." Tr. Day 3 (a.m.) at 58. The Levitan witnesses stated that they provided extensive model documentation and that "[d]espite Jacobs' unwillingness to execute the NDA, this detailed, proprietary model-related documentation was provided to Mr. Arnold, Staff, and OCA in the spirit of cooperation." PSNH-8 at 13. The LAI witnesses also stated that "[o]n another commercially sensitive matter undertaken for the CT PURA in 2008..., Jacobs and LAI did not have any difficulty reaching satisfactory agreement on an expedited track regarding the terms and conditions of the NDA...Notably, there were no issues surrounding the disclosure of confidential information on the CT PURA matter..." *Id.* at 14. At the hearing Mr. Levitan testified that "[i]t was done on an expedited track, smoothly, without any administrative challenge." Tr. Day 3 (a.m.) at 61. On June 13, 2011, LAI offered an NDA version that allowed for retention of one archival copy of confidential information for up to seven years. PSNH-13. In anticipation of resolution of the NDA and in the spirit of cooperation, LAI continued to answer all questions and was again willing to show the working models to Jacobs even though Jacobs had not signed the NDA. PSNH-8 at 15. Staff-8 indicates that Mr. Eaton sent another version of the NDA to Jacobs on June 21. In that version, LAI eliminated its requirement of not allowing indefinite retention of one archival copy of confidential information, provided that such retained confidential information not include LAI's computer model code or source code documentation. PSNH-13. Jacobs did not respond to the June 21 proposal until three weeks later, on July 15, in an email sent only to Mr. Eaton with another version of the NDA. Staff-8. This substantial delay by Jacobs meant there was only two weeks left before Staff testimony was due on July 27. While only LAI and Jacobs were to be signatories to the NDA, Mr. Arnold did not send the July 15<sup>th</sup> email with attached revised NDA to anyone at LAI who had been copied on previous communications to Jacobs by Mr. Eaton. While Mr. Arnold avers that during the period July 25<sup>th</sup> to August 4<sup>th</sup>, 2011, he “execute[d] multiple attempts to contact Jerry Eaton, to determine status of

Arnold, who himself was unwilling to share forecasts of oil and natural gas prices it had developed because they were “commercially confidential reports.” PSNH-17; Tr. Day 5 at 26-27.

As LAI testified, they bent over backwards to accommodate Staff and Mr. Arnold’s requests for information about the model and the Bloomberg data. For example, LAI was informed on May 24 that Staff and Mr. Arnold planned to visit LAI for four days (June 2, 3, 6, and 7) in order to answer Mr. Arnold’s questions about the model and for him to “test drive” the model with his data sets. PSNH-8 at 15. Staff and Mr. Arnold later changed their plans and spent the equivalent of two days meeting with LAI, first on June 3, a two-hour webinar on June 7 and a part-day meeting on June 14, 2011. *Id.* LAI was fully prepared to run the model with Staff’s data or LAI’s data at the two technical meetings in June and yet Staff never provided any data to LAI in advance of or at those meetings or asked LAI to run any of the sub-models. *Id.* at 15-16. That, of course, would have been the perfect opportunity for Staff and its consultant to “play with” the LAI model, which they chose not to do. Tr. Day 3 (a.m.) at 46. It is also undisputed that at those Boston meetings, LAI answered all of Mr. Arnold’s questions. Tr. Day 5 at 45. To criticize LAI or the Company for not undertaking further efforts to educate or share information about the model with Staff and its consultant when they did not provide any data or take the time to observe component model runs is completely misplaced.

The criticism over access to the Bloomberg data set is similarly inappropriate, in effect, a red-herring. As Mr. Levitan explained at the hearing, he has a long history of reliance on Bloomberg data in procurement and long-term resource planning matters for utilities around the country, and this was the first time in his many years of experience where he had been asked to “disgorge proprietary information from Bloomberg.” Tr. Day 3 (a.m.) at 66; Tr. Day 3 (p.m.) at 54. He further testified that “I would have easily made the decision to use some data sets in the public sector so as to avoid

---

Agreement, via phone calls and voice messages,” Staff-8, Mr. Arnold does not explain why he did not once place a call to LAI or contact LAI via email, who had not received that reply, to seek clarification. *See* PSNH-13.

this kind of extended argument. But again, *it wouldn't have changed a thing with respect to the results.*" Tr. Day 3 (p.m.) at 54 (emphasis added). That is because, as Dr. Carlson explained, vendors of daily spot price data use reports from traders of actual prices, and that a comparison between the Bloomberg prices and the Platts prices provided by Staff for one year of Dracut spot prices "showed that the numbers were very, very close." Tr. Day 3 (a.m.) at 64. LAI did produce the 12 monthly percentage basis spread adders (Henry Hub to Dracut) "to make it easy for anybody to calculate from any data source what the add-on would be." Tr. Day 3 (p.m.) at 111. As the Levitan witnesses explained in their rebuttal testimony,

Staff indicated in PSNH-2-5 (Exhibit LAI-4) that Staff has licensed Platts Gas Daily data, which provides Dracut natural gas prices, since June 18, 2004. In fact, Staff made use of its Platts data for 2010 daily Dracut gas prices to calculate Dracut to Newington Station basis spreads. Platts data is one of the data sources included in the Bloomberg data base. A global engineering firm and consultancy such as Jacobs Consultancy has subscriptions to data services, according to PSNH-1-14 (Exhibit LAI-5), that would have allowed Mr. Arnold to validate LAI's calculations of oil product basis spreads. Staff and Jacobs could have used their data services to calculate historic natural gas locational basis and oil product basis spreads.

PSNH-8 at 10-11. Thus, Staff could have verified the Bloomberg data without gaining access to it if it had desired, either by spot-checking against Bloomberg data at LAI's office or comparing the results of the same model calculations with alternative data.

Staff's position is belied by the fact that both Mr. McCluskey and Mr. Arnold were able to understand enough about the model to provide detailed technical suggestions to LAI about data used in the model. Tr. Day 4 (p.m.) at 47-48. That in turn allowed LAI to fine tune the data going into the model. In the Company's view, the process worked exactly as it should – the parties used discovery to gain an understanding of the model, which LAI earnestly took into consideration, and incorporated into updates to the model. Even without the standard protection afforded by an NDA, LAI accommodated both Staff's and Jacobs' drill-down efforts into the model structure and data, and allotted Staff and Jacobs much more time for model review than was ever used by Mr. Arnold and

Mr. McCluskey. The resulting model is refined and highly accurate, which is an indicator of the success of the process, not a failure of it.

At the hearing, the Commission asked the Staff witnesses whether if provided access to the model they could then make a recommendation to the Commission. Mr. Arnold indicated he could with “maybe a couple changed assumptions.” Tr. Day 5 at 130. That is consistent with his report, which stated that assuming that the model was free of structural flaws (of which there was no evidence once the initial model corrections were made), the model could “be used as a reasonable approximate predictor of Newington Station financial performance” if five changes were made to the model. Staff-1 at 70-71. Specifically, he recommended that the model (1) be set it up to account for the potential delivery of unprofitable operating reserves; (2) be modified to account for realistic start-up fuel costs; (3) be modified to account for realistic plant warming costs; (4) use basis differentials that underlie Newington’s delivered natural gas prices for 2010, and; (5) account for uncertainty in sustaining capital costs. *Id.*

At the hearing, both Mr. McCluskey and Mr. Arnold conceded that there was no need to modify the model for operating reserves, abandoning their prior position on that issue. Tr. Day 4 (p.m.) at 72-73; Tr. Day 5 at 67. And as LAI explained in its testimony, as part of a valuation analysis it ran at Staff’s request, LAI modified the start-up fuel costs and plant warming costs based on additional Company information obtained in the course of the backcast analysis.<sup>18</sup> Thus, the only remaining “changes” to the model relate to future capital expenditures at Newington Station – which can be put into the model when better known instead of being the subject of speculation – and gas price local basis differentials upon which Staff and the Company disagree.<sup>19</sup> As became clear at the

---

<sup>18</sup> LAI voluntarily ran a second backcast case that revised the start fuel assumptions and calculated an estimate of warming fuel cost to present to Mssrs. McCluskey and Arnold at the second visit to LAI’s office in order to reconcile actual 2010 performance with the Staff’s requested backcast case. Results of the original and revised backcast cases were provided in response to a request at the second Technical Session. PSNH-8 at 17-18.

<sup>19</sup> “The basis spreads proposed for use by Staff are not well-supported. Estimating the Dracut to Newington Station basis going forward with only 2010 data is not as reliable as using multiple years of data. For example, 2010



hearings, the reasons that Staff's fuel oil prices were different than the Company's were because Staff used oil-to-gas price ratios based on 2011 actual prices and Jacobs' forecast, rather than the August 27, 2010 NYMEX futures prices used by LAI, and Staff's ratios were based on Henry Hub rather than the Dracut point used in the model. Tr. Day 5 at 61-62.

Thus, when one focuses on the specific criticisms of the CUO, it becomes clear that throwing out the data and model and starting over as some parties suggest is not only the wrong result but would be incredibly wasteful. There is no evidence that the model has any structural flaws, and there is disagreement about a relatively limited number of assumptions used in the model. In the case of each of those assumptions, the Company and LAI presented substantial evidence supporting their rationale for their approach, demonstrating that it was thoughtful, based on unparalleled knowledge of Newington's operations, and significant professional expertise in the relevant areas of inquiry. While parties may disagree about what the future holds, that does not mean that the Company and LAI assumptions are unreasonable or inappropriate. Fundamentally, if the forward capacity value attributable to Newington is greater than the going-forward costs of operation, then the station brings value to customers. The Levitan model unequivocally demonstrates that this is true.

---

appears to have had unusually large summer basis spreads. This may be due to the unusually large portion of gas volumes purchased in the intraday market due to real-time dispatching to provide operating reserves. Because basis spreads are very volatile over time, it is not good practice to use only a single year of historic data for estimating average basis spreads to use for forecast purposes, especially for ten-year forecasts. For this reason, LAI's approach is to use six or more years of historic data to estimate basis spreads." PSNH-8 at 26. The new calculations of five years (2006-2011) of monthly average basis spreads that Staff introduced at the hearing on May 9 in Staff-11 should be disregarded totally because there was inadequate opportunity at the hearing to validate this information, which differs substantially from the calculations by LAI for the same period. Tr. Day 4 (p.m.) at 65-70; PSNH-8 at 26. Even Mr. McCluskey could not explain why the 2010 values in the five-year analysis differed from his previous calculations. Tr. Day 5 at 122. Moreover, Staff witnesses did not rebut the key point of the LAI witnesses that the basis spread is generally higher when purchased in the intra-day market for real-time dispatch to provide operating reserves, as opposed to day-ahead purchases, which was the basis of Staff's calculated spreads. PSNH-8 at 26. The model does not simulate real-time dispatch to provide operating reserves, PSNH-2 at 226, and virtually all of its simulated dispatch is for the day-ahead energy market, *id.* at 232. Hence, the modeled gas price should reflect the smaller basis for days when scheduled in the day-ahead market.

### III. Conclusion

PSNH has rigorously complied with all statutory and regulatory requirements in the preparation and compilation of its LCIRP. Further, the CUO was prepared in complete conformance to the Commission's requirement in Order No. 25,061 by a highly qualified expert consultant. The Company and its expert went to great lengths to provide information, assistance, and reasonable access to the model throughout this proceeding. The CUO revealed that there is a 0% probability that the NPV of the benefits will be negative – i.e., there is 100% certainty that the continued operation of Newington Station will benefit customers. For all of these reasons, the Company requests that the Commission approve its LCIRP filing as adequate and in full compliance with all statutory and regulatory requirements.

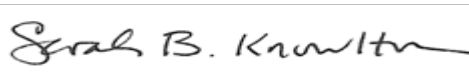
Respectfully submitted,

Public Service Company of New Hampshire

By Its Attorneys

Dated: June 13, 2012

By:

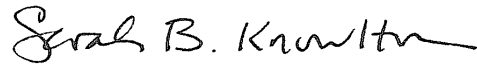


---

Gerald Eaton  
Sarah B. Knowlton  
Senior Counsel  
780 No. Commercial Street  
P.O. Box 330  
Manchester, NH 03105-0330  
Telephone: (603) 634-2961  
(603) 634-2326  
Email: gerald.eaton@nu.com  
sarah.knowlton@nu.com

**Certificate of Service**

I hereby certify that a copy of this Brief has been served electronically on the persons on the Commission's service list this 13<sup>th</sup> day of June, 2012.

A handwritten signature in black ink, reading "Sarah B. Knowlton". The signature is fluid and cursive, with a long horizontal stroke at the end.

---

Sarah B. Knowlton