

**STATE OF NEW HAMPSHIRE  
PUBLIC UTILITIES COMMISSION**

**DE 13-177**

**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE**

**2013 Least Cost Integrated Resource Plan**

**Order Accepting and Finding Adequate 2013 Least Cost Integrated Resource Plan**

**ORDER NO. 25,659**

**May 1, 2014**

**APPEARANCES:** Matthew J. Fossum, Esq. on behalf of Public Service Company of New Hampshire; Office of Consumer Advocate by Susan W. Chamberlin, Esq. on behalf of residential ratepayers; and Suzanne G. Amidon, Esq. on behalf of Commission Staff.

In this Order, the Commission finds that the LCIRP filed by PSNH in June 2013 meets the requirements of RSA 378:38 and is adequate pursuant to RSA 378:39. The Commission accepts the plan and further approves a Settlement Agreement that directs PSNH to include certain information in its next LCIRP, to be filed no later than June 6, 2015.

**I. PROCEDURAL BACKGROUND**

On June 6, 2013, PSNH filed its 2013 LCIRP pursuant to RSA 378:38. In Order No. 25,459 (January 29, 2013), the Commission accepted PSNH's most recently filed LCIRP and ordered PSNH to file its next LCIRP on or before September 3, 2013. In addition, in Order No. 25,459, the Commission exercised its waiver authority under RSA 378:38-a and directed PSNH to limit its 2013 LCIRP to the Company's planning for transmission and distribution. PSNH stated that the planning horizon for this LCIRP is five years: 2013 through 2017.

The Office of Consumer Advocate (OCA) filed a letter on July 3, 2013, indicating its participation in this docket pursuant to RSA 363:28. On July 18, 2013, the Commission issued an Order of Notice scheduling a prehearing conference for September 19, 2013. Commission

Staff (Staff) filed a proposed procedural schedule which the Commission approved by secretarial letter dated September 26, 2013.

On February 21, 2014, the OCA filed the direct testimony of Jim Brennan together with related attachments. Staff filed a Settlement Agreement on behalf of itself and PSNH on March 26, 2014. The hearing was held April 2, 2014.

## **II. POSITIONS OF THE PARTIES AND STAFF – INITIAL FILING**

### **A. PSNH's 2013 LCIRP**

#### **1. Distribution**

The LCIRP addressed several distribution issues including (1) the methodology PSNH uses to develop an engineering forecast to estimate peak load; (2) the process by which PSNH develops a plan to construct electric facilities based on peak load requirement in different areas of its service territory; (3) PSNH's joint planning activities with Unil Energy Systems, Inc., and the New Hampshire Electric Cooperative, Inc.; (4) the use of conservation and load management measures; (5) distributed generation; and (6) PSNH's reliability enhancement program.

According to the LCIRP, PSNH's planning for capital investment in the distribution system is determined by the Company's engineering forecast for peak demand. PSNH currently uses a methodology for forecasting peak demand for PSNH's entire system, and for forecasting peak demand for thirteen specific geographic areas of New Hampshire, that is based upon historical data analysis, probability forecasts, and engineering judgment. The engineering forecast is reviewed annually and updated based on actual peak demand data for each geographic area and overall PSNH simultaneous peak.

The LCIRP states that PSNH conducts system planning for its main 34.5 kilovolt (kV) distribution system by incorporating the engineering forecast loads into a computer model. System overloads and operating constraints are identified for each year based on PSNH's ED-3002 Distribution System Planning and Design Criteria Guidelines which provide the basis for least cost planning for the distribution system.

PSNH determines the construction requirements for the electrical system based upon each area's load growth and engineering forecast. According to the LCIRP, some areas experience peak demand growth rates that are higher than other areas and higher than the regional average, while other areas see essentially no peak load growth or experience a reduction in peak load. Because additional distribution capacity is required regardless of where load growth is located, the planning process results in total system capital investment requirements that exceed what would be required if planning were based on PSNH's overall system load growth. PSNH included with its LCIRP graphs demonstrating the peak load for each of the thirteen areas in its distribution system, and a graph depicting PSNH's overall peak loads from 1994 to the present. PSNH stated that it continues to be a summer peaking utility, primarily due to the reduction in the use of electric heat and the increase in the use of air conditioning by residential customers.

PSNH participates in an annual review process for the integrated least cost planning of wholesale delivery facilities for the mutual benefit of New Hampshire electric distribution companies and their customers. PSNH conducts planning for wholesale delivery with Unitil Energy Systems, Inc. (UES), and the New Hampshire Electric Cooperative, Inc. These activities result in joint PSNH-UES recommendations that issue to the Independent System Operator-New England (ISO-NE) on an annual basis.

PSNH stated that conservation and load management (C&LM) is a means of deferring capital expenditures needed to address forecasted peak demand. Each year, PSNH evaluates construction projects that require a capacity savings of 1-5 megawatts (MW) to determine if they are appropriate for targeted C&LM measures. The LCIRP noted that most projects proposed to address growth in peak demand also provide reliability benefits and address aging infrastructure issues, benefits not provided by C&LM measures. PSNH stated that targeted C&LM measures which use system benefit charge monies require explicit Commission approval, and such activities are done, initially, on a pilot program basis.

The LCIRP stated that PSNH has no current plan to install large scale PSNH-owned distributed generation. Independently-owned generation interconnections to the distribution system consist of hydro, biomass and wind generation. According to the LCIRP, customer-owned photo voltaic and wind installations operate in PSNH's service area on a small scale. The contribution of these installations to energy production and the intermittent nature of the systems result in a minimal impact to PSNH's planning process. Similarly, large wind generation is intermittent and cannot be assumed to be available at the time of the system peak in PSNH's planning studies. Hydro generation produces less energy in summer due to limited river flows, while biomass generation is assumed to be available for the base case model.

According to the LCIRP, PSNH's reliability enhancement program (REP) was initially established as a 5-year effort under the settlement agreement approved by the Commission in Order No. 24,750 (May 25, 2007) in PSNH's 2006 distribution rate case. The settlement established an annual funding level of \$10 million to be allocated for targeted distribution operation and maintenance activities and distribution capital investment with the objective of short and long-term improvement in PSNH's distribution system reliability and integrity. The

Commission continued PSNH's authority to operate the REP in PSNH's most recent distribution rate case, and increased the funding available for the program. PSNH stated that currently the base component of the REP is focused on vegetation management and National Electrical Safety Code inspections.

## **2. Transmission**

The LCIRP states that the key principle in transmission planning is to develop a regionally coordinated plan to reliably meet peak customer demands for electricity in addition to supporting the delivery of power across the region. PSNH's transmission requirements are considered within the process conducted at ISO-NE. PSNH, as part of the Northeast Utilities (NU) system, participates in the formation of the regional transmission system plan.

The LCIRP explained that the Federal Energy Regulatory Commission authorized ISO-NE to operate and perform regional system planning of the electric system in New England. The process used by ISO-NE is incorporated in the ISO-NE Open Access Transmission Tariff, and the regional transmission system planning process is set forth as an attachment to that Tariff. When a transmission system reliability problem is identified, ISO-NE and the New England Transmission Owners develop transmission system alternatives to resolve the reliability needed to ensure compliance with national and regional reliability standards. The transmission system alternatives are evaluated to determine their environmental impacts, costs and long-term system benefits.

According to the LCIRP, ISO-NE administers the regional system planning process and has a number of additional transmission related responsibilities. The primary responsibilities are (1) the conduct of periodic needs assessments on a system-wide or specific area basis, as appropriate; (2) the performance of solution studies to develop alternatives and define the

preferred project to address identified needs; and (3) the development of an annual regional system plan using a 10-year planning horizon.

To comply with applicable regulatory requirements, PSNH's local transmission planning process employs methodologies similar to the regional planning process. The consideration and evaluation of multiple alternatives and the final development of a recommended plan are coordinated with ISO-NE as part of the overall regional planning process and the development of the annual ISO-NE regional system plan. For local transmission facilities, NU assesses and develops solutions, as required, to address reliability needs. PSNH said that the information is identified in the NU Local System Plan and is submitted on an annual basis to the ISO-NE Planning Advisory Committee. Because PSNH's transmission requirements are considered within the purview of the ISO-NE process, specific information on PSNH's transmission planning are contained in the ISO-NE regional transmission plan.

#### **B. Office of Consumer Advocate**

The OCA's testimony recommended that PSNH modify its distribution planning process to include analysis of current technology known as Smart Grid. The OCA specifically recommended that PSNH include a Smart Grid Infrastructure plan as part of its distribution planning process, move customer meters into PSNH's distribution planning process, and include communication system and information technology (IT) functions in the planning process.

The OCA described Smart Grid as the integration of software, communications and sensors for the purposes of integrating Smart Grid applications into distribution planning. Some of the relevant applications include time-of-use rates, voltage management, demand response, and electric vehicle programs. The OCA said that Smart Grid technologies also facilitate the use

of advanced metering technologies that enhance outage management, and the remote adjustment of specifically equipped appliances.

Finally, the OCA stated that years of planning are required prior to designing and deploying Smart Grid infrastructure and that PSNH should begin incorporating an assessment of Smart Grid technologies in the distribution planning process to enable the integration of Smart Grid applications.

### **III. SETTLEMENT AGREEMENT**

The Settlement Agreement stated that PSNH and Staff agreed that PSNH's LCIRP filing meets the requirements of RSA 378:38 and that the Commission should find the LCIRP adequate pursuant to RSA 378:39. Section 2.2 of the Settlement Agreement also provided that PSNH's next LCIRP filing would add the following: (1) a description of its methodology for distribution planning, (2) a narrative description and a business process model that illustrates how PSNH integrates least cost objectives into its planning process, and (3) an updated assessment of demand-side energy management programs, including conservation, efficiency improvement, and load management programs. In addition, Staff and PSNH acknowledged that there may be benefits to PSNH and its customers through the addition of Smart Grid, particularly distribution automation technologies, to PSNH's distribution system. PSNH agreed to incorporate consideration of such issues in its next LCIRP. The Settlement Agreement did not set a deadline for PSNH's next LCIRP filing because the New Hampshire Legislature is considering legislation to amend the least cost plan statute.

The OCA did not support the Settlement Agreement. According to the OCA, PSNH should have included a 5- or 10-year plan that included planning for modernization of the grid. The OCA expressed concern that PSNH's generation is driving transmission and distribution

planning. In addition, the OCA suggested that PSNH should consider what its out-of-state affiliates were doing with respect to Smart Grid and take advantage of leveraging that experience in New Hampshire.

#### **IV. COMMISSION ANALYSIS**

Pursuant to 378:39, we are charged with reviewing PSNH's LCIRP to determine whether PSNH has adequately addressed the planning elements outlined in RSA 378:38. We previously granted a waiver to PSNH pursuant to RSA 378:38-a to limit its LCIRP to issues related to transmission and distribution planning. We consider the following to be LCIRP requirements that are related to generation: the Clean Air Act amendments of 1990 (RSA 378:38, VII), the National Energy Policy Act of 1992 (RSA 378:38, VIII), supply options assessment (RSA 378:38, III) and diversity of supply sources (RSA 378:38, V).

The remaining elements which must be addressed by an LCIRP under RSA 378:38 are (1) a demand forecast (RSA 378:38, I), (2) an assessment of demand-side energy management including conservation, efficiency and load management (RSA 378:38, II), integration of demand-side and supply-side options (RSA 378:38, VI), (3) environmental impacts (RSA 378:38, IX), and (4) transmission (RSA 378:38, IV).

PSNH's LCIRP states that its System Planning Department develops a demand forecast based upon historical data analysis and probability forecasts. PSNH reviews the forecast on an annual basis and updates the forecast based on actual peak demand data for each geographic area and overall PSNH simultaneous peak (RSA 378:38, I). Exhibit 1 at 2. The LCIRP addresses C&LM through NU procedure TD190—Targeted Application of C&LM (RSA 378:38, II). *Id.* at 17-18. Demand side management, including the integration of customer-sited distribution generation, customer-owned generation installed in its territory, and energy efficiency was



discussed (RSA 378:38,VI), as well as environmental impacts (RSA 378:38, IX). *Id.* at 18. Finally, PSNH's LCIRP addressed transmission planning (RSA 378:38,IV) . *Id.* at 20-22.

Based upon our review, we find that all relevant aspects of RSA 378:38 have been adequately addressed by PSNH in its 2013 LCIRP and that PSNH's filing is adequate for the purposes of RSA 378:39. We have also reviewed the Settlement Agreement and find that the Settlement Agreement appropriately addresses Staff's need for additional information in future filings to facilitate review of how the planning process comports with the plan. We expect that, as agreed, PSNH will include the additional elements identified in 2.2 and 2.3 of the Settlement Agreement in its next LCIRP filing.

In arriving at this determination, we have considered the comments of the OCA. We note that PSNH has agreed to consider Smart Grid in the preparation of its next filing and find that it addresses the OCA's position on this issue.

Finally, we are aware that legislation is pending before the New Hampshire General Court that may affect the timing and content of future LCIRP filings by electric utilities. Therefore, we will require PSNH to make its next LCIRP no later than June 6, 2015, unless we order otherwise.

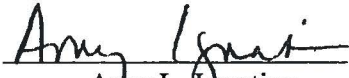
**Based upon the foregoing, it is hereby**


**ORDERED**, that Public Service Company of New Hampshire's 2013 Least Cost Integrated Resource Plan filed June 6, 2013, is accepted and found adequate as discussed herein; and it is


**FURTHER ORDERED**, that the Settlement Agreement between Public Service Company of New Hampshire and Commission Staff is hereby APPROVED; and it is

**FURTHER ORDERED**, that Public Service Company of New Hampshire shall file its next LCIRP no later than June 6, 2015, unless ordered otherwise by this Commission.

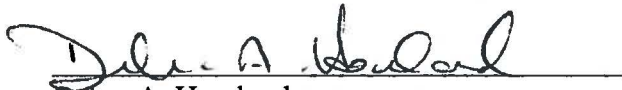
By order of the Public Utilities Commission of New Hampshire this first day of May, 2014.

  
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Amy L. Ignatius  
Chairman

  
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Robert R. Scott  
Commissioner

  
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Martin P. Honigberg  
Commissioner

Attested by:

  
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Debra A. Howland  
Executive Director

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**Pursuant to N.H. Admin Rule Puc 203.11 (a) (1): Serve an electronic copy on each person identified on the service list.**

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