



Supplemental LCIRP Report

Docket No. DE 21-004

December 12, 2022



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Section 1: Executive Summary

Liberty Utilities (Granite State Electric) Corp. (“Liberty” or the “Company”) filed its Least Cost Integrated Resource Plan on January 14, 2021. During the course of the docket, there have been numerous rounds of discovery, one reliability report, one wires/non-wires solution report, several technical sessions, and testimony filed by the New Hampshire Department of Energy (“DOE”). The parties conducted a technical session on October 24, 2022, to generally review DOE’s September 2022 testimony and subsequent responses to discovery. The result of that discussion was an agreement by the parties for Liberty to file a supplement to its LCIRP. This report seeks to satisfy the DOE’s recommendations.

Section 2: DOE Recommendations

On September 16, 2022, DOE filed testimony with several recommendations discussed below to be addressed in a supplemental filing. In the following Section, the Company will address each of these recommendations.

1. Specific reporting on each of the criteria in RSA 378:39, to be supported by written testimony, as set out in the Commission’s Order No. 26,225 (March 13, 2019) in Docket No. DG 17-152.
2. The impacts of existing and new projected load in the Salem service area on Liberty’s demand forecasting, planned capital investments, and grid needs forecast.
3. Rework and update the sections in the LCIRP involving planned system investments and grid needs assessment to include project descriptions, projected costs, and any alternatives considered related to the ongoing system build-out in Salem and Tuscan Village, and any other ongoing or near-term projects (i.e., over the next 2-year period in excess of \$250,000) that have been initiated or are about to be initiated.
4. Update on the criteria in RSA 378:38 III-Supply Options. The supplement should address the substantial impacts of the current global natural gas market on electric rates and the longer-term availability of capacity.
5. Liberty should continue its participation in the processes set forth by the Commission’s “guidance” in Docket IR 15-296, Order No. 26,575, to develop its next LCIRP, and the substance of that LCIRP should align with the expectations expressed by the Commission in that Order.
6. Liberty should adopt a more aggressive stance (e.g., hybrid solutions) when evaluating NWS alternatives against traditional solutions, including modifying NWS selection guidelines to make them more competitive. For example, it might be worth considering if the “24 months in the future” and/or the above \$500,000 threshold guidelines are too restrictive.



7. Liberty should consider that the solution to most of the reliability issues occurring on problem distribution circuits (e.g., Charlestown/Bellows Falls) could be focused tree trimming and may include a combination of routine tree trimming, hot-spot tree trimming, and danger-tree management focused on actual field observed conditions. Liberty should also consider using reclosing protection devices in tree-affected areas. Additionally, based on the reliability improvement data contained in the reports provided, there appears to be limited reliability value on mitigating the impact of falling danger trees by reconductoring with spacer cable.

Section 3: Company Responses to DOE Recommendations

Liberty appreciates the effort from the DOE and its consultants regarding its recommendations for the LCIRP filing and the subsequent reliability reports. The Company has reviewed the recommendations and provides its response to each.

1. Report on RSA 378:39 and Order No. 26,225

RSA 378:39 provides the Commission with a directive to review LCIRPs within an adjudicative proceeding. The statute also notes, “the commission shall consider potential environmental, economic, and health-related impacts of each proposed option.” Liberty’s planned capital investments for the planning period include blanket projects such as public requirements and damage/failures, underground residential development (URD) cable replacement, and bare conductor replacement. Of these investments, only URD and bare conductor replacement are of a nature and magnitude that lend them to the options analysis described in RSA 378:39 and Order No. 26,225. With these planned investments in mind, the Company offers the following discussion of their environmental, health, and economic impact.

- A. Environmental

At a high level the Company’s Renewable Energy Certificates (“REC”) procurement, energy efficiency programs, and net metering tariffs provide environmental benefits to the state by reducing reliance on fossil-fueled sources of electric generation produced both inside and outside the state that emits greater amounts of pollutants.¹ (Bates 011)

At a more granular level related to Liberty’s planned capital investments, Liberty engineers periodically receive Environmental Training and Guidance provided by the Environmental Engineer. The training includes process steps for identifying environmental considerations related

¹ Specifically, carbon dioxide (CO₂), sulfur oxides (SO_x), nitrogen oxides (NO_x), particulates, and other pollutants.



to project and work order preparation. During the planning, design, and estimating stages, it is the responsibility of the Engineering Department to identify any environmental considerations related to project or work order activities. If environmental issues are found, Liberty's Environmental Engineer is consulted to review and provide alternatives to mitigate the environmental issues in accordance with Company Policy and Industry Best Practices. The environmental evaluation assesses certain environmental conditions through discussions with the property owner or others, a review of site plans, and/or field observations. (Bates 036–037)

For each potential project, the project lead is responsible for identifying any negative and/or positive environmental impacts that may occur due to the project. If there are negative environmental impacts such as increased reliance on fossil-fueled generation, or disturbance to wetlands, the project lead will need to determine if there is another option to alleviate the environmental issue or if the project cannot be completed. If the project moves forward, the business case includes a section that provides what, if any, environmental impacts there may be.

Liberty's Distribution Asset Strategies documents included in the January 14, 2021, filing on Bates 179 through 321 provide instances where it's noted that environmental impacts are included in the evaluation of distribution construction.

The 2001 Plan ranked the environmental impacts in the System Planning Summaries for Bellows Falls and Lebanon as provided on Bates 426, 428, 478, 480, 505, and 506.

B. Economic Impacts

Although RSA 378:39's inclusion of environmental impacts likely intended to apply to the generation assets that New Hampshire utilities owned prior to restructuring, and although the Commission has not specified how this language should apply post-restructuring, RSA 378:39 may reasonably be interpreted to require the Company to evaluate the economic impacts of the options it considered when determining its planned capital investments during the planning period. Distribution planning takes local economic growth into consideration as new customers request service. The Company spends approximately \$2–3 million annually to build new services for customers. While new customer growth is somewhat limited in the Company's territory, it is not zero. With small and large customer growth being recognized, the Company must ensure that it provides safe and reliable service to its existing and new customers. The capacity of circuits and asset condition are considered when contemplating growth. Large customers considering locating their businesses in the Liberty territory look for safe and reliable electricity. Providing an electric system that allows for business growth allows for job growth. The Company is committed to building and maintaining a reliable distribution electric system at the lowest cost to its



customers while encouraging growth. For reliability projects such as bare conductor and URD replacement, economic impact is not considered.

C. Health Impacts

RSA 378:39 requires Liberty to identify health impacts on its customers. Although the statute's discussion of health impacts was also likely intended to apply to the utilities' generation assets prior to restructuring, the statute now can be applied to a consideration of the options Liberty considered in its planning process and discuss how those potential impacts contributed to Liberty's decisions to pursue the planned capital investments described above. That is, the identification and evaluation of health impacts are primarily viewed through the lens of distribution planning and individual projects in this LCIRP.

While health impacts may be measured best in the vicinity of power plants, health impacts from the installation of poles and wires are less, if at all, impactful to the health of the community. The construction of the distribution system in communities requires local oversight through permits, and possibly State of New Hampshire oversight when building within state corridors. Given the limited instances where health impacts pose a problem with a project, they are considered sporadically.

2. Load Forecasts

The Company provided in its original filing load forecasts for both its east and west services areas. The DOE notes in its testimony that the Rockingham substation load driven by the Tuscan Village development is not included in the load forecast. This is incorrect; there are multiple purposes for building the Rockingham substation:

- Build a substation to serve the Salem area with the latest grid technology
 - Provides high reliability
 - Allows for flexibility in operation, allowing for breaker, bus, or transformer maintenance without taking an outage
 - Meets Liberty standards for SCADA, providing valuable data for system operators and engineering
- Allow for the retirement of Salem Depot and Baron Ave substations that have asset conditions, obsolete equipment, and maintenance and operating concerns
- Serve the new load in the Salem area driven by, but not exclusive to the Tuscan Village development
- Includes modern relays and communication devices to allow future distribution automation further improving the operability of the system and storm response



- Added capacity allows Liberty to re-supply the Spicket River and Golden Rock substations during N-1 contingency condition resulting in a solution that most reduces reliance on the transmission provider (National Grid).

Additionally, the Tuscan load is not coming online all at once. This load is coming online over a period of a few years as the development is built and tenants sign leases. As such, making out-of-model adjustments would not be appropriate given the moving target timeline of when all of the load will be served. The Company is willing to work with the DOE to provide the most up-to-date information on load as requested.

3. Planned System Investments

Liberty's 2021 LCIRP did not include a list of planned system investments, as the Commission's suggestion to include such information was first stated in orders that occurred after the January 2021 filing. See Order No. 26,684 (Sept. 14, 2022) (pertaining to the most recent Liberty-gas 2022 LCIRP). The Company does not have an update for this section of the LCIRP involving planned system investments at this time. In the settlement of the Company's most recent rate case, the settling parties agreed that the Company would include a proposal for Performance-Based Ratemaking ("PBR") in its next rate case. See Order No. 26,376 (June 30, 2020). The Company, along with its advisors, is currently working on all elements of that case with an expectation to file it in April 2023. The capital plan is one of the elements that remains in process; therefore, the Company does not have a finalized plan. As soon as it is complete and available, Liberty will provide a supplemental update to the LCIRP with the same capital plan that will be filed in the rate case. The Company expects to make that update no later than the end of January 2023.

4. Future of Energy Pricing

DOE's testimony recommended that Liberty "address the substantial impacts of the current global natural gas market on electric rates and the longer-term availability of capacity." Liberty is a price taker in the market for electric supply; Liberty procures its electric supply through a competitive solicitation process. Thus, Liberty has no expertise on the "global natural gas market" or on the "longer-term availability of capacity." Those topics are best addressed by ISO-New England.

According to ISO-NE, natural gas fueled 53% of generation in 2022². During the last few years, inadequate infrastructure to transport natural gas has at times affected the ability of natural gas-fired plants to get the fuel they need to perform. This energy-security risk has become a pressing concern in New England, considering the major role natural gas-fired generation plays in keeping

² <https://www.iso-ne.com/about/key-stats/resource-mix>



the lights on and setting prices for wholesale electricity.³ In projecting where prices are trending domestically, experts rely on several factors to gauge the health of the US natural gas market. These factors include US natural gas production, US Liquefied Natural Gas (“LNG”) exports, US power generation, and US industrial demand. These factors, together, strongly correlate to where the US five-year storage balances are predicted to be at certain times of the year. At the risk of oversimplifying, if storage balances are predicted to be below average, the market grows concerned about a supply shortage, and therefore prices go up. When storage balances are about the five-year average, the market pricing retracts as the market is encouraged that supply will be sufficient to meet demand.

Because of the persistent summer heat that dominated the US over the summer of 2022, there was an increased cooling demand giving rise to a record power burn in many areas of the nation that rely on natural gas to fuel their electric generation. As a result, storage inventories were below the five-year average by roughly twelve percent. Since the Company last went out to bid for electric supply, the NYMEX pricing has fallen from about \$7.60⁴ in June 2022 to \$6.27⁵ in November per MMBtu. Currently, the Company is in the process of receiving bids to serve its electric load for February 2023 through July 2023, but it does not know what the bid results are as of the date of this filing.

5. Participation in Docket IR 15-296

On February 3, 2022, the Commission terminated the Grid Mod investigation in IR 15-296. Order No. 26,575 (Feb. 3, 2022). The Commission noted in the Order that its guidance is the culmination of a broad investigative process. The Commission further identified that in each utility-specific LCIRP, an appropriate grid modernization stakeholder (“GMSG”) process will be developed. However, since Order No. 26,575 was issued on February 3, 2022, more than a year after the initial filing of this LCIRP, Liberty interprets the stakeholder process requirement to inform its next LCIRP filing. Regarding the issues identified for the GMSG responsibilities in Appendix A to the Order, the Commission said it would open a new adjudicative docket to examine and resolve those issues. On April 28, 2022, the Commission formally closed Docket No. IR 15,296, and has not yet opened a new adjudicative proceeding to flesh out the GMSG requirements.

³ <https://www.iso-ne.com/about/what-we-do/in-depth/natural-gas-infrastructure-constraints>

⁴ <http://www.gasearch.com/ngnp.php>

⁵ https://ycharts.com/indicators/henry_hub_natural_gas_spot_price#:~:text=Henry%20Hub%20Natural%20Gas%20Spot%20Price%20is%20at%20a%20current,from%204.83%20one%20year%20ago.



6. Review of NWS Evaluation

The Company agrees that it should review its NWS evaluation which may include changing the criteria of a need with a timeline greater than 24 months in the future and a cost of greater than \$500,000. The DOE provided the following examples, and the Company will investigate before its next LCIRP if any of these approaches are appropriate for Liberty:

- National Grid included the following to promote NWAs⁶ and found that marketing solutions were required for localized NWA solutions to succeed over the more typical system-wide programs.⁷
- Consider portfolio solutions containing multiple technologies (i.e., solar and storage; targeted demand response and wind; etc.) that collectively provide an integrated solution.
- PG&E developed a targeted, least-cost planning demand-side management program to support distribution and defer T&D capacity investments.⁸
- Central Hudson initiated an NWA business model that shared investment savings with customers, where 70% of the savings went to the ratepayers and 30% to the utility.⁹

With inflation, supply chain issues, and the high cost of materials, non-wires alternatives may become cheaper than the wire solution. If a non-wire solution costs less than a wire solution, even if the solution is less than 24 months out and less than \$500,000, the Company will look to identify those options as part of its analysis and determine if that instance requires divergence from the Company's planning strategy.

7. Tree Trimming

Tree trimming is a significant issue for reliability in the Charlestown/Bellows Falls area. Liberty employs multiple work planners whose job it is to physically visit each circuit to determine what circuit trimming, interim trimming, and tree removal are necessary. The work is done the year before the circuit is trimmed to ensure the Company has the most recent picture of the foliage. The work planners provide the eyes in the field necessary to make these determinations and the information is logged to support the circuit trimming the tree crews will encounter.

6 NGRID Website - www.nationalgridus.com/Business-Partners/Non-Wires-Alternatives/What-is-an-NWA

7 Feldman, Brett. "Non-Wires Alternatives: What's up next in utility business model evolution," Utility Dive, July 12, 2017.

8 Ibid

9 Ibid



With regard to using reclosing protection, reclosing protection is an additional solution to tree trimming/removal. The wires solutions included in the June 1, 2022, Reliability Report include installing reclosers to help with switching in the event of an outage.

The Company submitted its 2023 Vegetation Management Plan to the DOE on November 15, 2022, which includes fully trimming the 12LI circuit servicing the Charlestown area. The Company expects with this trimming that reliability will improve somewhat in the area and will monitor the outcome. Don't we need more than trimming?

Section 4: Conclusion

The Company is continually working to plan and upgrade its system at the lowest cost to its customers. Growth, asset condition, and other factors provide Liberty with the opportunity to review its policies and procedures frequently to ensure the Company is always providing safe and reliable power at a just and reasonable cost to its customers.

