

**STATE OF NEW HAMPSHIRE
BEFORE THE
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY
2020 LEAST COST INTEGRATED RESOURCE PLAN

DOCKET NO. DE 20-161

**INITIAL BRIEF OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
D/B/A EVERSOURCE ENERGY**

I. Introduction

Public utilities in New Hampshire are required to file least cost integrated resource plans (“LCIRP”) not less than every five (5) years to address forecasted need and how the public utility will address this forecasted need in a manner that is consistent with New Hampshire energy policy. RSA 378:38.

The New Hampshire energy policy is that energy needs should be met “at the lowest reasonable cost while providing for the reliability and diversity of energy sources; to maximize the use of cost effective energy efficiency and other demand side resources; and to protect the safety and health of the citizens, the physical environment of the state, and the future supplies of resources, with consideration of financial stability of the state’s utilities.” RSA 378:37.

Public Service Company of New Hampshire d/b/a Eversource Energy (“Eversource” or the “Company”) submits this brief in accordance with the Procedural Order established by the Commission at the April 25, 2023 evidentiary hearing (2023 Apr. 25 Tr. at 93). In this brief, the Company demonstrates that it has met all statutory requirements with respect to its 2020 LCIRP and all requirements as agreed to in other proceedings.¹ The Department of Energy (“DOE” or the

¹ The Company’s previous LCIRPs was resolved through settlement approved in docket DE 19-139; this settlement agreement included compliance items to be included in the 2020 LCIRP (Exh. 1, at Bates 000050-000051). The settlement agreement approved in docket DE 17-136 also included an LCIRP compliance item that is included in the 2020 LCIRP (*id.*).

“Department”) has expressed support for and recommended approval of the Company’s 2020 LCIRP together with the settlement agreement reached between DOE and the Company (2023 Mar. 8 Tr. at 86-87, 125 and 2023 Apr. 25 Tr. at 69-71; see also Exhs. 20, 21, 22).

The Company also acknowledges the helpful feedback provided by the Commission and provides a plan for incorporation of this feedback into future LCIRP filings (see, e.g., 2023 Mar. 8 Tr. at 20, 56). As detailed below, the 2020 LCIRP (inclusive of the October 2022 Supplement and Exhibit 25) should be approved together with the partial settlement agreement reached between the Company and DOE. The LCIRP represents a “snapshot in time” but the Company has demonstrated throughout this proceeding that its planning and project evaluation processes are ever evolving (2023 Mar. 7 Tr. at 78-79; see also Exh. 8, at Bates 000018-000022). Although the 2020 LCIRP is anchored by 2020 perspectives, it is clear that the Company’s distribution system is not. The electric distribution grid transition is underway and will be captured in the next iteration of the Company’s LCIRP (id.).

II. Procedural Background

Eversource submitted its 2020 LCIRP on October 1, 2020 (Exhs. 1 and 2). The Office of Consumer Advocate (“OCA”) filed a letter of participation on October 5, 2020. On December 1, 2020, the Commission approved a procedural schedule for this proceeding including dates for supplemental filings. Accordingly, the Company supplemented the 2020 LCIRP on March 31, 2021 with Appendices A-1 (the Company’s Non-Wires Analysis Framework) and A-2 (analysis for the non-wires solution for the Loudon Substation); and Appendices B through F (providing revised documents to reflect the Company’s (then) recently adopted Distribution System Planning Guide and also to provide initial project documentation for proposed and/or selected projects) (Exhs. 3 and 4). On April 30, 2021, the Company filed the results of the customer survey agreed to as part of the settlement agreement approved in Docket DE 19-057 and on May 28, 2021, the

Company filed the results of the condition assessment agreed to as part of the settlement agreement approved in Docket No. DE 19-057 (Exhs. 5 and 6).²

On April 13, 2021, an interim procedural schedule was approved for this proceeding. This interim procedural schedule was suspended to accommodate staffing issues experienced by DOE (see 2023 Mar. 8 Tr. at 164). On October 15, 2021, a revised procedural schedule was issued. Clean Energy New Hampshire (“CENH”) filed a late petition to intervene on June 13, 2022 that was granted by the Commission on June 28, 2023.³

Direct testimony was filed by DOE, OCA, and CENH in August 2022 (Exhs. 16, 17, 18, and 19). The Company filed its rebuttal testimony (Exh. 7) on September 30, 2022. In response to DOE’s direct testimony and consistent with the Commission’s procedural order dated October 7, 2022 granting the Company’s Motion to Adjust Procedural schedule, the Company filed a supplement to its 2020 LCIRP together with supplemental testimony on October 18, 2022 (the “Supplement”) (Exh. 8).

DOE filed a technical statement setting forth its position regarding the 2020 LCIRP on January 18, 2023 (Exh. 20). The Commission issued a procedural order on January 19, 2023 rescheduling hearings until March 7 and 8, 2023. The Company and DOE filed status updates on January 19, 2023 in response to the January 17, 2023 procedural order issued by the Commission (see Exh. 21). On March 2, 2023, the Company filed a limited settlement agreement reached with the DOE (the “Settlement Agreement”) together with a request to waive the requirements of Puc

² The settlement agreement approved in Docket DE 19-057 was approved pursuant to Order No. 26,433 on December 15, 2020 after the filing of the 2020 LCIRP on October 1, 2020. The Company provided additional details regarding the customer survey in Exhibit 10 (see Exh. 10 at Bates 000001-000015, 000023).

³ On May 23, 2023 Kris Pastoriza filed a Petition to Intervene in this proceeding. Pursuant to the procedural schedule in this proceeding, the deadline for any petitions to intervene passed more than two years ago. Commission Order of Notice dated October 14, 2020 (setting a deadline for petitions to intervene of November 13, 2020). The Company respectfully requests that this proceeding not be further delayed and that Ms. Pastoriza’s filing submitted in this proceeding be treated as public comments.

203.20(e) (Exh. 22). The Commission accepted the Settlement Agreement for consideration as conducive to promoting the orderly and efficient conduct of the proceeding and because acceptance of the Settlement Agreement would not impair the rights of any party to the proceeding (2023 Mar. 8 Tr. at 8).

The Commission held three days of hearings on March 7, March 8, and April 25, 2023. The Commission issued three record requests at the conclusion of the March 8, 2023 hearing; the Company's responses were submitted on March 21, 2023 (Exhs. 23, 24, and 25).

III. Standard of Review

The 2020 LCIRP must satisfy the requirements of RSA 378:38 and 378:39 which require the Company as an electric utility to file a LCIRP with the Commission within two years of the Commissions' final order regarding the Company's prior LCIRP but not later than 5 years of the filing date of the prior plan. RSA 378:38. The LCIRP is further required to include the following, as applicable:

- I. A forecast of future demand for the utility's service area.
- II. An assessment of demand side energy management programs, including conservation, efficiency, and load-management programs.
- III. An assessment of supply options including owned capacity, market procurements, renewable energy, and distributed energy resources.
- IV. An assessment of distribution and transmission requirements, including an assessment of the benefits and cost of "smart grid" technologies, and the institution or extension of electric utility programs designed to ensure a more reliable and resilient grid to prevent and minimize power outages, including but not limited to, infrastructure automation and technologies.
- V. An assessment of plan integration and impact on state compliance with the Clean Air Act of 1990, as amended, and other environmental laws that may impact a utility's assets or customers.
- VI. An assessment of the plan's long- and short-term environmental, economic, and energy price and supply impact on the state.
- VII. An assessment of plan integration and consistency with the state energy strategy under RSA 12-P.

RSA 378:38.

RSA 378:39 governs the Commission’s review of the LCIRP stating that “[t]he [C]ommission shall review integrated least-cost resource plans in order to evaluate the consistency of each utility’s plan with this subdivision, in an adjudicative proceeding. In deciding whether or not to approve the utility’s plan, the [C]ommission shall consider potential environmental, economic, and health-related impacts of each proposed option.” RSA 378:39 further states that where the Commission determines that options have:

equivalent financial costs, equivalent reliability, and equivalent environmental, economic, and health-related impacts, the following order of energy policy priorities shall guide the [C]ommission’s evaluation:

- I. Energy efficiency and other demand-side management resources;
- II. Renewable energy sources, including renewable natural gas as defined in RSA 362-I;
- III. All other energy sources.

IV. Discussion

A. The Company’s 2020 LCIRP Satisfies the Filing Requirements of RSA 378:38

The Company’s 2020 LCIRP is a voluminous filing that is comprised of the “plan” and a number of appendices (2023 Mar. 7 Tr. at 154). These appendices provide the specific policies and procedures pursuant to which Eversource forecasts need on its system and how investments are selected to address that need⁴ (see id. at 242). To aid review, Appendix A of the 2020 LCIRP provides an overview for how the Company’s 2020 LCIRP complies with each of the requirements of 378:38, if applicable (see 2023 Mar. 7 Tr. at 76). The Company also summarizes where in the record each of the components required by RSA 378:38 is addressed below.

⁴ Because investments are selected to address a forecasted need, not all projects will be at a stage where project documentation and/or evaluations can be provided at the time an LCIRP is filed (see 2023 Mar. 7 Tr. at 239-242). The necessary time required to complete the project analysis can create a gap between when a need is identified (in the LCIRP) and when the project solution analysis is performed (2023 Mar. 8 Tr. at 82). For this reason, specific project solutions may not be known at the time the LCIRP is submitted (id.).

1. A forecast of future demand for the utility's service area.

The Company's load forecast is described in Section 5 of the 2020 LCIRP (Exh. 1, at Bates 000014). The objective of Eversource's distribution system planning is to provide safe, reliable, cost effective electric service to customers (id.). The current forecasting process begins by forecasting the peak demand at the Eversource system level using an econometric model that evaluates historic peak demand as a function of peak day weather conditions and the economy (id.). DOE agreed that the Company's process to forecast its load is consistent with other utilities and that its methodology of forecasting the load at individual substations using an econometric model (discussed below) is considered a leading practice (Exh. 16, at Bates 000014; see also 2023 Mar. 8 Tr. at 99).

Once the Eversource system level forecast is finalized, the bulk substation level forecasts are developed (Exh. 1, at Bates 000015; see also Exh. 9, at Bates 00070). Each bulk substation is forecasted using an econometric model that evaluates substation historical demand as a function of the Eversource system peak demand history and forecast (id.). The substation econometric models measure how each substation peak performed relative to the regional economic development and then projects that relationship into the future using regional economic forecasts provided by Moody (id.). After a trend forecast is produced for each substation the forecast is adjusted for energy efficiency, distributed energy resources ("DER") specifically solar, large customer projects (Step Loads), or other material changes in load or supply (id.; see also Exh. 11, at Bates 000088 and 2023 Mar. 7 Tr. at 97). Company-sponsored energy efficiency are proportionally applied to each substation in proportion to historical peak demand at each substation (id.; see also 2023 Mar. 7 Tr. at 157-158, 163). Specifically, identified large development projects or expected changes in system operations that could not otherwise be predicted by the econometric forecasts are applied to the affected substation (Exh. 1, at Bates 000015; see also Exh. 9, at Bates 00070). In addition, capacity reserves are held for customer owned co-generation units which hold

Standby Delivery Service Contracts (id.). The Company included historical and forecasted loads at the regional and substation levels in Appendix B and Appendix C, respectively (Exh. 1, Bates 000052-000063). The Company’s detailed load forecasting methodology was documented in Section 4.4 of the Distribution System Planning Guide, provided as Appendix D (Exh. 1, Bates 000064-000112). Appendix D also provides Initial Funding Request Forms; these forms provide a preliminary evaluation and proposal for future projects.⁵

In its initial filing, the Company indicated that it would be adding adoption rate forecasts for specific technologies including electric vehicles (“EV”), distributed generation (“DG”), etc. throughout 2020 and 2021 (Exh. 1, at Bates 000016-000017). The Company has begun making adjustments to its forecasting and modeling to account for these technologies (Exh. 8, at Bates 000020). Specifically, the Company is focusing on electrification and its impact on the grid (id.). A process to efficiently combine load forecasts with system planning models is being developed and implemented (id.). Accounting for electrification impacts across its service territory will allow the Company to design projects that are needed today in a manner such that the projects can be leveraged to achieve long-term projections (id. at Bates 000021). The capabilities associated with this advanced forecasting include heating potential analysis, EV impact assessment, and solar modeling (rooftop and ground mounted) (id.).

The Company has also begun moving to a time series analysis (allowing the evaluation of distribution assets over every hour of a forecasted year as opposed to a single worst case scenario) for both DER interconnection and system planning (Exh. 8, at Bates 000023). This will have impacts on how Eversource studies interconnection and evaluates long-term solutions (id.).

⁵ DOE noted that this Initial Funding Request Form and the Solution Selection Form (presented in Appendix E) represent helpful improvements in the Company’s project selection process that aided DOE’s review (2023 Mar. 8 Tr. at 107, 111). These forms lead to the ultimate project selection memorialized in the project authorization forms (Appendix F).

2. An assessment of demand side energy management programs, including conservation, efficiency, and load-management programs.

As discussed above, Company-sponsored energy efficiency (“EE”) is proportionally applied to each substation in proportion to historical peak demand at each substation (Exh. 1, at Bates 000015). The Company applies EE proportionally as part of its forecasting because its underlying assumption is that EE is targeted peak reduction (2023 Mar. 7 Tr. at 99). This means that substations with more peak demand will be most impacted by EE measures (id.). Section 11 of the 2020 LCIRP also addresses demand side management programs. Eversource continuously evaluates programs and collaborates with regulators, stakeholders, vendors, and customers to improve energy efficiency offerings (Exh. 1, at Bates 000037). For example, the Company expects to deploy new demand response programs that will be proposed as part of its next energy efficiency plan filing that will be submitted to the Commission in summer 2023 (2023 Apr. 25 Tr. at 25).

The Company’s EE programs and active demand response (“ADR”) have resulted in capacity and peak demand reduction (Exh. 1, at Bates 000041). Demand side management (e.g., energy efficiency) can also contribute to non-wires alternatives (“NWA”) in certain locations (id. at Bates 000042). The Company has incorporated energy efficiency and active demand response in the range of possible solutions for resolving bulk station capacity violations (id. at Bates 000043). Finally, the Company developed an NWA Screening Tool to assess all NWA solutions for all relevant projects. This NWA Screening Tool (discussed in more detail below) includes an assessment of both the technical and financial viability of EE and ADR for reducing violations (id.; see also 2023 Mar. 7 Tr. at 98). This NWA analysis allows the Company to consider whether additional programs can be put into place that is location specific (“geo-targeted”) (2023 Mar. 7 Tr. at 98). Specifically, the NWA analysis provides the Company with a determination regarding whether EE is a less expensive long-term option as compared to a traditional system investment (id. at 101).

3. An Assessment of Supply Options including Owned Capacity, Market Procurements, Renewable Energy, and Distributed Energy Resources

RSA 378:38 clearly states that its requirements should be addressed in an LCIRP, “as applicable.” Assessment of supply options are no longer applicable to the Company’s LCIRP in the same manner as pre-deregulation. Following completion of its divestiture in 2018, the Company has no owned capacity (Exh. 1, at Bates 000047). In addition, the Company does not own or operate any renewable energy or DER assets nor does Eversource dictate or prescribe their development⁶ (id.). Instead, the Company focuses on accommodation of development of renewable and/or DER projects and installations by customers as part of its distribution system planning (id.; see also Exh. 1, at Bates 000014 (Section 5: Distribution System Planning)). Eversource expects the development of such facilities to continue and expand in the state and the Company is continuing to make adjustments to its forecasting and modeling to reflect this (Exh. 8, at Bates 000020). The Company is also investing in tools that will facilitate interconnection (id. at Bates 000023-000024).

For example, the Company is working on improvements to the hosting capacity information that it has begun to deploy (Exh. 8, at Bates 000024; see also 2023 Mar. 8 Tr. at 29). These tools will enhance the interconnection application process and also enable a more efficient use of DER data for inclusion in system planning studies (id.). The Company published hosting capacity maps in New Hampshire for the first time in December 2022 and will deploy PowerClerk in summer 2023 (2023 Mar. 8 Tr. at 29-30). A program called “GridTwin” was deployed a week before the first day of hearings in this matter (2023 Mar. 7 Tr. at 66). As explained by the Company’s witness panel, “GridTwin” allows property searches for solar developers, in combination with hosting capacity analysis and estimations of interconnection costs” (id. at 66,

⁶ If this changes in the future, as permitted by RSA 374-G, the Company would include an assessment of Company DER in a future LCIRP (see 2023 Mar. 8 Tr. at 79).

245; see also 2023 Mar. 8 Tr. at 31). GridTwin was developed in collaboration with Massachusetts Institute of Technology and the Company is the first utility in the nation to deploy this technology (2023 Mar. 8 Tr. at 32).

The Company does provide energy supply to certain customers through its default Energy service. This energy supply is provided through competitive solicitations to wholesale market participants and is governed by the Settlement Agreement approved in Docket DE 17-113.⁷

4. An Assessment of Distribution and Transmission Requirements, including an Assessment of the Benefits and Costs of “Smart Grid” Technologies, and the Institution or Extension of Electric Utility Programs Designed to Ensure a More Reliable and Resilient Grid to Prevent or Minimize Power Outages, Including but not Limited to, Infrastructure Automation and Technologies.

Section 10 of the 2020 LCIRP provides an overview of how Smart Grid technologies will transform the distribution grid (Exh. 1, at Bates 000036). Appendix J provides an analysis of the benefits associated with specific smart grid investment types (Exh. 1, at Bates 000262-000269). At the time of the 2020 LCIRP filing, the Company was deploying certain grid modernization investments (e.g., distribution automation) (see id.; see also Exh. 9, at Bates 000072 and Exh. 11, at Bates 000090-000091) while continuing to monitor other grid modernization investments (e.g., advanced meter infrastructure (“AMI”)) (id.).

However, the LCIRP filing inevitably represents a “snapshot in time” and does not mean that the Company has not progressed in its grid modernization efforts or initiatives (see, e.g., 2023 Mar. 7 Tr. at 261-262). Since the filing of the 2020 LCIRP, the Company agreed to participate in an AMI Feasibility Assessment that will further detail the costs and benefits of different scenarios for AMI deployment (Exh. 24). This feasibility study is being performed in partnership with DOE and OCA pursuant to the settlement agreement approved by the Commission in Docket DE 19-

⁷ While DOE asserts that RSA 378:38(III) could apply to an electric distribution company such as Eversource, the DOE also acknowledges that no scenarios presented in the 2020 LCIRP involve Company deployment of resources and therefore even if RSA 378:38(III) could apply, it does not apply to the 2020 LCIRP (Exh. 16, at Bates 000011).

057. With the support of a third-party consultant, the AMI Feasibility Assessment will provide insights into deploying AMI across the state (id.). A modern grid will enable a cleaner energy future through increased visibility and optimization of the distribution system (id.). Widespread visibility of power flows is a prerequisite to optimizing real-time system conditions to capture the time and location-based value of clean energy resources (id.). The confluence of these factors is driving a need to make “enabling” investments that provide the grid edge visibility necessary to support a broad spectrum of the grid-modernization efforts envisioned for the next generation electric-distribution utility (id.; see also Exh. 11, at Bates 000090-000091).

The eventual transition to AMI meters is a foundational element of the Company’s grid modernization vision⁸ (Exh. 24). Successful AMI implementation is dependent on maximizing value to customers relative to the cost to deploy all system components (id.). Achieving the benefits of AMI includes spending in the following implementation categories:

- AMI meters;
- Communications infrastructure and head end system;
- Meter data management system;
- Customer information system;
- Cybersecurity;
- Project management;
- Customer enablement (e.g., online access to usage data);
- Analytics for customer and operational outcomes (e.g., transformer load management, targeted participation in energy efficiency);
- Outage Management System (OMS) and Distribution Management System (DMS) integrations;
- Customer education and marketing; and
- Customer service representatives (e.g., incremental costs associated with additional representatives needed to assist customers and address questions as AMI meters are deployed).

⁸ Deployment of AMI in New Hampshire will be informed by the Feasibility Study discussed below. Currently, the Company anticipates deploying AMI in New Hampshire to align with the end of useful life associated with its existing automated meter reading (“AMR”) system to manage any costs associated with early retirement of these AMR meters (Exh. 24).

(Exh. 24).

Deploying communications to a single meter increases costs relative to the Company's plan of a geographic deployment where all meters are communicating on a single network (Exh. 24). Therefore, the Company plans to deploy AMI as a complete system (inclusive of the components listed above following completion of the AMI feasibility study (id.)). Based on this planning horizon, the Company expects a more robust discussion of "smart grid" or "grid modernization" technologies as part of its next LCIRP.

5. An Assessment of Plan Integration and Impact on State Compliance with the Clean Air Act of 1990, as Amended, and other Environmental Laws that may Impact a Utility's Assets or Customers

As discussed above, following the restricting of the electric industry and Eversource's divestiture of its generating assets in 2018, Eversource no longer owns generation (Exh. 1, at Bates 000048). As a result, the Company is no longer subject to Section 112 compliance requirements of the Clean Air Act on electric generating facilities (id.; see also Exh. 16, at Bates 000011, 000031).

The supply provided by the Company to its default Energy Service customers is procured through a competitive solicitation that is governed by the Settlement Agreement approved in DE 17-113. This procurement results in supply from the wholesale, ISO-NE market where electric generation is currently dominated by natural gas but is expected to shift toward less carbon-intensive sources in response to regional emission goals (Exh. 1, at Bates 000048).

The Company does, however, consider environmental impacts as part of its business. For example, the Company's parent organization has set an aggressive greenhouse gas ("GHG") emissions reduction target of carbon neutrality by 2030 (Exh. 8, at Bates 000012). This initiative informs Company policies including reduction of the Company's energy consumption and GHG emissions from assets and operations (id.). This is in addition to work the Company is doing to

interconnect clean, renewable energy into New England through offshore wind, solar, and other initiatives (id.). The Company also sources materials and equipment that adhere to environmental best practices and comply with environmental regulatory requirements (id.).

6. An Assessment of the LCIRP’s Long- and Short-term Environmental, Economic and Energy price and Supply Impact on New Hampshire

With the Company’s divestiture of its generation assets, the direct impact of the Company’s planning is limited (Exh. 1, at Bates 000048; see also 2023 Mar. 8 Tr. at 79). The Company’s Non-Wires Alternative (“NWA”) Framework allows the Company to analyze potential Non-Wires Solutions for incorporation into its solution portfolio (Exh. 1, at Bates 000048; see also Exh. 1, at Bates 000064-000112 and Exh. 3, at Bates 000002). The Company’s NWA Framework is discussed in greater detail below and has the potential to evaluate global CO2 emissions of a wide variety of solutions to help further environmental goals (see id.; see also Exh. 1, at Bates 000042).

7. An Assessment of Plan Integration and Consistency with the State Energy Strategy Under RSA 4-E:1

At the time that the 2020 LCIRP was developed and filed, the most recent version of the State Energy Strategy was the version released in 2018 by the Office of Strategic Initiatives (Exh. 1, at Bates 000049⁹). Some of the goals outlined in the strategy were policy decisions belonging to state leaders and not individual electric distribution utilities such as Eversource (id.). Therefore, the Company identified five important goals to address in the 2020 LCIRP: (1) prioritize cost-effective energy policies; (2) ensure a safe, reliable, and resilient energy system; (3) adopt all-resource energy strategies and minimize government barriers to innovation; (4) maximize cost-effective energy savings; and (5) achieve environmental protection that is cost-effective and

⁹ The 2018 State Energy Strategy is available here: <https://www.nh.gov/osi/energy/programs/documents/2018-10-year-state-energy-strategy.pdf>. DOE compared the state policy issued in July 2022 (well after the filing of the 2020 LCIRP) and did not find significance differences between the 2018 and 2022 state policies (Exh. 16, at Bates 000032). As a result, DOE concluded that the Company remains compliant with the state energy policy (id.).

enables economic growth (id. citing 2018 State Energy Strategy at 12). The Company addresses these five goals throughout the LCIRP.

Sections 5, 10, and 11 of the 2020 LCIRP describe the Company's planning functions and forward-looking analyses, including those relating to planning for energy efficiency and grid modernization (Exh. 1, at Bates 000049). The Company's planning is also ensuring that it will continue to provide a reliable and resilient electric system into the future (id.). In fact, the two key drivers of the Company's decisions regarding investment in its distribution system are (1) maintaining and improving the reliability of its distribution system for the benefit of all customers; and (2) accomplishing this goal at a reasonable cost (Exh. 7, at Bates 000017; see also Exhs. 10, at Bates 000087-000089 and Exh. 11, at Bates 000001-000005).

With respect to the state's adoption of an "all resource" strategy, this strategy requires Eversource to build and operate a system capable of accommodating large and small generation sources, as well as traditional "base load" sources alongside intermittent resources including solar and wind (Exh. 1, at Bates 000049; see also Exh. 11, at Bates 000010). The Company's Distribution System Planning Guide is aligned with this objective to plan and design a system capable of safely integrating all such resources, while also incorporating NWAs (where appropriate) to help lower energy costs while meeting performance goals (Exh. 1, at Bates 000049-000050). Taken as a whole, the Company's 2020 LCIRP demonstrates compliance with the State Energy Strategy through focus on the areas within its control. It is also important to note that while the 2020 LCIRP has remained pending before the Commission, the Company has continued to further these goals. With respect to the objective of achieving environmental protection that is cost-effective and enables economic growth, the Company has enhanced its project selection process through using a "decisional matrix" that includes a detailed reasoning for project ranking (Exh. 8, at Bates 000014). The decisional matrix includes a range of criteria including costs and environmental impacts (id.).

8. The 2020 LCIRP Complies with the Settlement Agreements Approved in Dockets DE 19-139 and DE 17-136

In addition to addressing each of the filing requirements set forth in RSA 378:38, the Company's 2020 LCIRP also addressed each of the filing requirements agreed to as part of a previous settlement agreement¹⁰ (Exh. 1, at Bates 000050-000051; see also Exh. 13, at Bates 000009-000011). The Commission's Order Nos. 26,362 and 26,207 approved settlement agreements in Dockets DE 19-139 and DE 17-136, respectively. Each of these settlement agreements included terms outlining requirements that the Company agreed to include in the 2020 LCIRP. Appendix A of the 2020 LCIRP outlines how each of these requirements were complied with and is summarized below.

The settlement agreement approved in Docket DE 19-139 required the Company to perform a detailed NWA analysis on a project selected in collaboration with the DOE and OCA (Exh. 1, at Bates 000050-000051). This detailed NWA analysis was provided in Exhibit 3. In addition, the Company addressed how it incorporates NWA analysis into its planning process as part of Section 5 of the 2020 LCIRP and in its Distribution System Planning Guide (see Exh. 1, at Bates 000024-000025, 000064). Finally, in compliance with the DE 19-139 settlement agreement, the Company included an explanation for how its planning criteria changed with the implementation of SYSPLAN-008 and SYSPLAN-010 (Exh. 1, at Bates 000051, 000022-000024). In compliance with the settlement agreement approved in DE 17-136, the Company provided a Grid Needs Assessment as Appendix K of the 2020 LCIRP (Exh. 1, at Bates 000051;

¹⁰ The Company did inadvertently omit substation circuit, breaker-level and/or facility-level information identifying the location and system granularity of investment need. This omission was identified during the hearing in this proceeding (2023 Mar. 7 Tr. at 172-173). The Company's 2020 Design Violations Summary Report (Exh. 4) demonstrated that the Company had looked at each transformer bus and feeder or circuit; however, where there was no violation the breaker-level loading criteria was not included (2023 Mar. 7 Tr. at 172-173). The Company supplemented the record with this breaker-level information in a record request response marked as Exhibit 25. The DOE confirmed that the response to the record request marked as Exhibit 25 satisfied the requirement to provide breaker-level data (2023 Apr. 25 Tr. at 17).

000270). The Company further provided a series of approved Solution Selection Forms and Project Authorization Forms for planned projects as Appendix L (Exh. 1 at Bates 000051, 000277).

B. The Company's 2020 LCIRP Provides Sufficient Information to Inform the Commission's Evaluation Pursuant to RSA 378:39

In its direct testimony, DOE asserted that the Company had not addressed RSA 378:39 as part of the 2020 LCIRP (Exh. 16, at Bates 000012). DOE's testimony therefore stated that the Company should file a supplement (id. at Bates 000012, 000032). As discussed above, RSA 378:39 states that "[i]n deciding whether or not to approve the utility's plan, the commission shall consider potential environmental, economic, and health-related impacts of each proposed option." In other words, RSA 378:39 creates a standard of review for the Commission to apply to its review. While Eversource does consider environmental, economic, and health impacts as part of its project selection process, the Company agreed with DOE that it had failed to discretely address these factors in the 2020 LCIRP (Exh. 8, at 000008; see also 2023 Mar. 7 Tr. at 76-77). Accordingly, the Company accepted DOE's recommendation and submitted its 2020 LCIRP Supplement (Exh. 8).¹¹ In its technical statement, the DOE confirmed that it had reviewed the 2020 LCIRP Supplement and found that the 2020 LCIRP supplement was satisfactory, subject to two recommendations that have since been addressed through the Settlement Agreement entered

¹¹ It is important to note that RSA 378:39 does not address what should be included in a least cost integrated plan in the same way that RSA 378:38 provides a list of components. Instead, RSA 378:39 provides guidance to the Commission regarding its review. Although the OCA has argued throughout this proceeding that the Company's 2020 LCIRP should be rejected based on various arguments including an argument that the Company is treating its LCIRP as a "book report" and has supplemented the filing in an attempt to receive "a better grade," accepting this argument and rejecting the Supplement would undermine the collaborative nature of the regulatory process pursuant to which information is shared and the utilities work to provide clarification to stakeholders including the Department of Energy (OCA Letter Dated October 5, 2022). In its role, the Department of Energy has assumed the role of former Commission staff with respect to review of utility filings such as the LCIRP. In the absence of Commission staff, DOE therefore plays a critical role in addressing identified issues during the course of a proceeding. It would be unfortunate if the DOE were unable to make recommendations that could not be addressed during a proceeding. If the 2020 LCIRP were rejected simply because the Supplement was filed at a later time than the 2020 LCIRP, this would result in a waste of all the time and resources devoted to review of the 2020 LCIRP over the course of nearly three years and it is unclear what objective this would serve.

between DOE and Eversource (discussed below) (Exh. 20, at Bates 000005; see also 2023 Mar. 8 Tr. at 125).

There are two key drivers of the Company's decisions regarding investment in its distribution system: (1) maintaining and improving the safety and reliability of the distribution system for the benefit of all customers; and (2) accomplishing this goal at a reasonable cost (Exh. 8, at Bates 00007-000008; see also 2023 Mar. 7 Tr. at 77). As explained in greater detail in Exhibit 8, the Company considers a range of project attributes on a project-by-project basis that include environmental considerations, line losses, and other factors (Exh. 8. at Bates 000008). As a distribution company, the health impacts associated with its system are intertwined with environmental impacts and similarly, reliability and resiliency improvements are intertwined with environmental impacts (id. at Bates 000010). Ensuring the reliability of its distribution system is the most cost-effective way to ensure positive project impacts in the areas of environmental, economic and health-related impacts because this is the area where the Company has the greatest control and that is consistent with the Company's core mission as a distribution company (id.).

In addition to its focus on reliability, the Company also takes steps to account for the environmental and/or health impacts of a project on a project-by-project basis (Exh. 8, at Bates 000012; see also 2023 Mar. 7 Tr. at 103). For example, the Company uses a decisional matrix to evaluate project options including consideration of environmental impacts by the Company's Sustainability and Environmental Affairs Department (Exh. 8 at Bates 0000014-000015). The project cost estimation process for substation projects also uses a Constructability Review that considers the environmental impacts for all project alternatives (id. at Bates 0000015, 0000142).

The Company accounts for economic impacts in three ways: (1) the Company ensures that the project results in a safe and reliable system that supports New Hampshire businesses and customers; (2) the Company compares the costs and benefits of each project to inform a "lowest reasonable cost" determination; and (3) the Company evaluates the potential project to determine

whether it will facilitate the transition to a modern grid that will facilitate the higher penetration of DER (Exh. 8, at Bates 000017).

Finally, the Company accounts for health impacts on a project-by-project basis by considering whether the project will enable DER and/or DG (Exh. 8, at Bates 000016). Enabling DER and/or DG has the potential to avoid or reduce emissions which can have a positive impact on human health (id. at 000018). Specifically, the NWA tool has the ability to compare global CO2 emissions (id.). Lastly, the Company notes that there are direct, positive health impacts through provision of safe and reliable distribution service (id. at 000019). Safe and reliable service protects the health of the Company's customers by ensuring that heating and cooling systems can function (id. at 000020).

Finally, as explained to the OCA during the hearings in this matter, the Company understands that it must balance reliability with customer cost (see 2023 Mar. 7 Tr. at 115-116). This balancing acknowledges that there are costs to customers associated with reliability issues and also associated with capital investments in the Company's system (id. at 116). The Company addresses this balancing in a number of ways including the addition of a Manager of System Resilience and Reliability Planning and adoption of Synergi (id. at 116-117). These improvements to the Company's planning process since the filing of the 2020 LCIRP will enhance the Company's ability to account for reliability considerations (id.).

C. The Settlement Agreement between DOE and the Company Should Be Approved.

As discussed above, DOE has expressed support for the Company's LCIRP and recommended approval of the 2020 LCIRP, with the exception of its NWA framework thresholds and subject to DOE's position regarding application of the N-1 planning standard to DER (see 2023 Mar. 7 Tr. at 54). DOE and the Company have successfully resolved these issues through the Settlement Agreement.

In DOE's direct testimony it expressed concerns with whether the Company was being proactive and aggressive enough in looking for competitive NWA solutions (Exh. 16, at Bates 000023). DOE noted that no NWA had been implemented in New Hampshire to-date (id.). As a result, in its technical statement, DOE recommended an investigation into the thresholds that apply to the Company's NWA Framework to ensure that potential NWAs are not being missed (see Exh. 20, at Bates 000005).

The Company's NWA Framework was provided in Appendix A-1 and includes threshold requirements for when an NWA analysis would be performed; these thresholds are based on experience and the Company's discussions with other industry partners (Exh. 3, at Bates 000005; 2023 Mar. 7 Tr. at 145). The Company only applies the NWA Framework to projects that meet the framework's threshold criteria: (1) the costs associated with the traditional solution are greater than \$3 million; (2) the project has a planning horizon of greater than 3 years; and (3) the project is not being undertaken due to an asset or age condition (2023 Mar. 7 Tr. at 83). The costs associated with NWAs can be costly and only constitute a more cost-effective solution (versus a traditional solution) where traditional solutions are sufficiently expensive to offer significant deferral value for an NWA to be cost beneficial (Exh. 7, at Bates 000015; 2023 Mar. 7 Tr. at 149). To avoid significant engineering efforts by screening projects with very limited chance of success, the Company applies its cost threshold as part of its NWA Framework (Exh. 7, at Bates 000015). Eversource also does not apply the NWA Framework to smaller upgrade projects (i.e., projects with a planning horizon of less than three years) because applying the screening process to these smaller upgrade projects would introduce unrealistic delay into the process and would spark a significant increase in engineering and project management overhead costs (id.). Finally, the Company does not consider NWA solutions that have an asset or asset condition component because there is no practical application for an NWA to be developed for a failing asset (id. at Bates 000015-000016).

In response to DOE’s concerns that these thresholds could be precluding opportunities for implementation of NWAs, the parties engaged in discussions that led to the narrow settlement agreement. Pursuant to the terms of the settlement agreement, the Company has agreed to perform an “investigation” that will consider whether any of these threshold criteria should be adjusted (Exh. 22, at Bates 000009-000014). The NWA Investigation will be performed over a two-year period and inform Eversource’s next LCIRP filing (id.). Specifically, pursuant to the terms of the Settlement Agreement, the Company will modify its NWA Framework thresholds over a two-year period to include projects with costs not less than \$1 million, projects with a planning horizon of not less than 2 years, and projects that are related to aging equipment (on a case-by-case basis) (2023 Mar. 7 Tr. at 83-84). The Settlement Agreement also includes data collection and reporting requirements that the Company has agreed to (Exh. 22, at Bates 000008-00014; see also 2023 Mar. 7 Tr. at 144-145). Agreeing to the NWA Investigation is a reasonable resolution of DOE’s concerns and represents a collaborative way to address this issue (2023 Mar. 7 Tr. at 85).

The second Issue addressed by the narrow Settlement Agreement is the Company’s application of the N-1 planning standard to DERs (Exh. 22, at Bates 000003). The appropriateness of applying the N-1 planning standard to DERs has been raised during the course of this proceeding by CENH and is discussed in greater detail below. The Settlement Agreement does not substantively address the Company’s application of the N-1 planning standard to DER (id.) Instead, the Settlement Agreement includes an acknowledgement by the Company that DOE is currently conducting an investigation, DOE Docket IP 22-001, regarding interconnection (id.). The Settlement Agreement memorializes that DOE’s position on this issue is subject to the outcome of that investigation and therefore, DOE takes no position in this 2020 LCIRP docket. As DOE explained at the outset of the hearing, the Department has taken no position on the N-1 planning standard as applied to DER because DOE’s position is contingent on the outcome of DOE Docket IP 22-001 (2023 Mar. 7 Tr. at 31-32).

At the outset of the first day of hearings, OCA argued that the Settlement Agreement should be ignored by the Commission due to its late filing arguing that it was unexpected and unfair (2023 Mar. 7 Tr. at 15). OCA renewed its objection to the Settlement Agreement at the conclusion of the hearing on the alleged basis that the Settlement Agreement should be considered “of no interest to the Commission” (2023 Apr. 25 Tr. at 82). The OCA specifically argues that the Settlement Agreement is meaningless (*id.* at 78). This argument is without merit and should be disregarded. Throughout this proceeding, the DOE has expressed concerns with whether the Company’s NWA analysis is adequately capturing NWAs. The NWA Framework is how the Company performs part of its project selection analysis; thus, reaching resolution on this issue is germane to this proceeding. Similarly, DOE has expressed concern with taking any position regarding the application of the N-1 planning standard pending the outcome of its investigation in Docket IP 22-001. Acknowledging DOE’s position formally allows DOE to support the 2020 LCIRP without reservation and creates a clear record for any future proceeding implicating this issue.

Accordingly, it was appropriate to accept the Settlement Agreement pursuant to Puc 203.20(f) because it supported the orderly and efficient resolution of this matter and did not impair the rights of any party.¹² Acceptance of the Settlement Agreement resolves DOE’s limited concerns with the 2020 LCIRP and thus reduced the need for cross-examination of the Company and DOE’s witnesses (by DOE and the Company). The Settlement Agreement should be approved pursuant to Puc 203.20(b). The terms of the Settlement Agreement are narrow but represent a reasonable resolution of DOE’s issues.

¹² The Commission scheduled a third day of hearings on April 25, 2023 thereby allowing for ample opportunity to cross-examine DOE and the Company’s witnesses regarding the Settlement Agreement.

D. Clean Energy New Hampshire's Cost Allocation Concerns Regarding Interconnection Upgrades Require a Holistic, State-Wide Approach

There is no existing requirement for the Company to seek approval to amend its planning standards. There is also no dispute that the N-1 planning standard ensures that substations can sustain any single contingency event without a loss of load and that the N-1 standard is a planning standard that is industry-accepted (Exh. 15, at Bates 000001; see also 2023 Mar. 7 Tr. at 80 and 2023 Mar. 8 Tr. at 245). Nevertheless, the Company has dedicated significant resources in this proceeding to defending its decision to memorialize its application of an N-1 planning standard for DER impact studies in the fourth quarter of 2020 as part of the Company's continuously evolving planning standards that are designed to meet its obligation to provide safe, reliable service (Exh. 15, at Bates 000001; see also 2023 Mar. 7 Tr. at 134, 139). The N-1 planning standard applies to all load (reverse and forward) and all customers (load and DER) (id.). The goal of the N-1 planning standard is to maintain adequate levels of operational flexibility which ensures power quality and reliability that meet or exceed customers' expectations (id.; see also 2023 Apr. 25 Tr. at 27).

This N-1 testing is not new but has been performed on large generator interconnections in New Hampshire over the past decade (Exh. 15, at Bates 000001, at fn. 1; see also 2023 Mar. 7 Tr. at 81, 134 (stating that the N-1 planning standard was applied to DER interconnection for the first time approximately 12 years ago¹³)). The Company began applying this N-1 planning standard to all DER impact studies because of the increasing level of DER penetration at Eversource's bulk distribution substations (id. at Bates 000001; see also 2023 Mar. 7 Tr. at 81). With increased DER penetration comes the associated thermal capacity, voltage, and power quality impacts, which can be observed primarily during reverse power flow conditions (low load/high generation periods) on

¹³ The Company further explained that it has applied the N-1 planning standard to distribution planning, specifically at the substation, for at least 36 years (2023 Mar. 7 Tr. at 134).

Eversource's distribution lines and station equipment (id.). Maintaining operational flexibility on lines and substation equipment that are intentionally designed to pick up customer load and generation during outages resulting from N-1 contingencies at the station is especially critical to ensuring reliability and service continuity for all customers (id.). As a result, the explicit application of the N-1 standard to DER represents the natural evolution of the Company's planning criteria in order to main the safe and reliable operation of its system (2023 Mar. 7 Tr. at 81).

The Company has an obligation and responsibility to ensure that its distribution system is reliable and to mitigate the risk of extended outages to its customers (Exh. 15, at Bates 00002). The Company also recognizes that infrastructure upgrades are the key to enabling DER to remain online in support of clean energy goals; application of the N-1 planning standard to DER addresses these challenges (id.). If the N-1 planning standard is not consistently applied to DER customers, the Company would be required to trip DER off-line (either remotely, via a System Operator, or automatically, via a Direct Transfer Trip Scheme) during an N-1 event (id.). This would undermine clean energy goals and expose Eversource's DER customers to the risk of outages for extended durations (weeks or months) (id.). Further, if the Company were to agree to trip DER off-line during N-1 events, the combination of an N-1 contingency event with the need to identify and trip certain DER would create unnecessary additional operator burden, potentially delay response, and negatively impact reliability for all customers (load and DER alike) (id. at Bates 000002, Bates 000011).

Despite these clear benefits associated with the N-1 planning standard, CENH has made the N-1 planning standard its main focus during the course of the proceeding (see 2023 Mar. 8 Tr. at 245-248). The argument that the Company failed to receive regulatory approval for application of the N-1 planning standard is without merit (notably CENH cites to no legal authority in support of this argument). Whether the Company received explicit approval is also not the reason that CENH has raised this issue.

CENH has raised concerns with application of the N-1 planning standard based on the increased interconnection upgrade costs that have resulted from application of the N-1 planning standard as DER has increased on the Company's system (see 2023 Mar. 8 Tr. at 246, 258-259). As the proliferation of DER on the NH distribution system increases, so does the likelihood that interconnection upgrades are necessary. The Company has applied the N-1 planning standard to DER interconnection since at least 2004 (Exh. 15, Bates 000032; see also Exh. 15 at Bates 000015-000031). Historically, application of this N-1 planning standard had little to no impact on interconnection of DER projects because the volume of DER projects requesting to connect was much smaller. However, the Company has noticed an increase in the number and size DER projects over time; this increase is directly connected to the increase in interconnection costs at particular substations and is also responsible for CENH's interest in this proceeding.

The Company points this out not as a criticism of CENH but to highlight that CENH's concern is beyond the scope of this LCIRP proceeding. The Company allocates the costs associated with interconnection upgrades based on the cost causation principle and consistent with the terms of its tariff (Exh. 15, at Bates 000006). The cost causation principle means that the project that triggers the need for the interconnection upgrade is responsible for paying those interconnection costs. This can result in "free rider" concerns because if a DER project interconnection triggers an upgrade to the system based on an N-1 violation identified during the interconnection study, and if that project chooses to proceed and the upgrade is put in place, that upgrade may expand system capacity at that location (id. at Bates 000012). This headroom would then be available to interconnect future DERs until the capacity is fully subscribed (i.e., future DERs would not be responsible for interconnection upgrade costs) (see id.). The same "advantage" occurs where rate payers have paid for a system upgrade that resulted in headroom that allows for interconnection of a DER project (id. at Bates 000006; see also 2023 Mar. 8 Tr. at 259).

To address this free rider issue, the cost allocation methodology associated with these interconnection upgrades would need to be changed. However, an alternative cost allocation mechanism is a policy change that would require approval by the Commission and was not proposed for consideration in this proceeding. The Company's affiliates in Massachusetts and Connecticut are exploring alternative cost allocation mechanisms and the Company is amenable to considering application of these alternative cost allocation mechanisms for New Hampshire (id.; see also 2023 Mar. 7 Tr. at 143; see also 2023 Apr. 25 at 54). However, this docket is not the appropriate forum for addressing this policy change. Any change to cost allocation mechanisms should be explored in a larger proceeding such as the pending Department of Energy investigation (Docket IP 2022-01).

E. The OCA's Arguments that the 2020 LCIRP should be Rejected Must be Dismissed.

The OCA has been vocal throughout this proceeding that it recommends rejection of the 2020 LCIRP (see, e.g., 2023 Mar. 7 Tr. at 16-17; see also Exh. 18, at Bates 005). The OCA makes these recommendations without engaging with the Company in any discovery and through limited participation in technical sessions (2023 Mar. 8 Tr. at 188). While OCA is under no obligation to issue discovery, failing to engage in the procedural schedule and then recommending rejection of the 2020 LCIRP is counterproductive. This is particularly problematic where, like here, the OCA supports its position (in part) by arguing that it could not discern how the Company complied with the relevant statute due to the "disjointed" presentation of information (see, e.g., Exh. 18, at Bates 000032). The DOE issued five sets of data requests and was an active participant in technical sessions; this active participation ultimately led to the DOE's ability to recommend approval of the 2020 LCIRP through collaborative resolution of its concerns. This collaborative and constructive paradigm should be encouraged by the Commission.

Nevertheless, the Company has acknowledged that the format of its LCIRP could be improved (2023 Mar. 8 Tr. at 19). The OCA will likely characterize this acknowledgement by the Company as evidence that the 2020 LCIRP should be rejected (see, e.g. 2023 Mar. 8 Tr. at 21); however, the Company views this as an opportunity to receive meaningful feedback from the Commission and other stakeholders prior to development of its next LCIRP (see also Exh. 7, at Bates 000020). The 2020 LCIRP represents the first complete LCIRP submitted by Eversource following divestiture of its assets and the 2020 LCIRP also included a number of “add on” components agreed to as part of various settlement agreements (2023 Mar. 8 Tr. at 19). Addressing feedback in this piecemeal manner ensured compliance but has resulted in a plan that is difficult to review (see, e.g., 2023 Mar. 7 Tr. at 264¹⁴, 280). Thoughtful development of the next LCIRP with stakeholder input can address the evolution of the distribution system while also ensuring that the final plan is easy to review and digest, particularly in terms of alignment with a future rate proceeding (see 2023 Mar. 8 Tr. at 28, 39). The next LCIRP filing will also benefit from new teams of Company personnel that did not exist in 2020 and from new tools and processes that will benefit the planning process (id. at 20, 56).

V. Conclusion

The record in this proceeding demonstrates that the Company’s 2020 LCIRP satisfies all statutory requirements and should be approved. In addition to meeting all statutory requirements, the 2020 LCIRP presented a reasonable approach to least-cost integrated resource planning based on the circumstances at that time. The electric distribution grid is changing in response to

¹⁴ The Commission expressed frustration with the lack of an executive summary to accompany the necessary detail included in the 2020 LCIRP (2023 Mar. 7 Tr. at 264, 269). The Company has made note of this criticism and intends to address this concern as part of its next LCIRP filing. The Commission further expressed an interest in a capital plan spend by year and a move towards a more “outcome” based LCIRP (id. at 269; see also 2023 Mar. 8 Tr. at 22). The Company provided this information in response to a data request from DOE and based on the Commission’s feedback will include this information in the next LCIRP filing (2023 Mar. 7 Tr. at 269; see also Exh. 17, at Bates 000111).

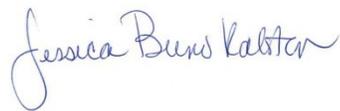
increased clean energy generation, adoption of electric vehicles, etc. However, these changes are ongoing and the regulatory support for this transition has evolved since the 2020 LCRIP was developed. As a result, it would be unreasonable and unfair to review the 2020 LCIRP under the lens of today's policies and information. Instead, the Commission should compare the 2020 LCRIP to the actual circumstances occurring in fall 2020.

Lastly, the Settlement Agreement entered into between the Company and DOE is in the public interest and should be approved because it will create data driven NWA framework thresholds that can be objectively supported by stakeholders.

Respectfully submitted as of June 5, 2023, by

**Public Service Company of New Hampshire
d/b/a Eversource Energy**

By its attorney,



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Certificate of Service

I hereby certify that on June 5, 2023, a copy of this brief has been electronically forwarded to the service list in this docket.

A handwritten signature in blue ink that reads "Jessica Buno Ralston". The signature is written in a cursive style with a large initial 'J'.

Jessica Buno Ralston