

STATE OF NEW HAMPSHIRE
BEFORE THE
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

DOCKET NO. DE 20-161
2020 LEAST COST INTEGRATED RESOURCE PLAN

SUPPLEMENTAL TESTIMONY OF
RUSSEL JOHNSON, LAVELLE FREEMAN, GERHARD WALKER, MATTHEW
COSGRO, AND TRACY GIONFRIDDO

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

October 18, 2022

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PETITION OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
d/b/a EVERSOURCE ENERGY
2020 LEAST COST INTEGRATED RESOURCE PLAN

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1 **I. INTRODUCTION**

2 **Q. Mr. Johnson, please state your full name, position and business address.**

3 A. My name is Russel D. Johnson. I am employed by Eversource Energy Service
4 Company as Director of Distribution Engineering. My business address is 780
5 North Commercial Street, Manchester, New Hampshire.

6 **Q. Have you previously sponsored testimony in this proceeding?**

7 A. Yes, I co-sponsored the rebuttal testimony filed on behalf of Public Service
8 Company of New Hampshire d/b/a Eversource Energy (“Eversource” or the
9 “Company”) in this proceeding. The Company’s rebuttal testimony sets forth my
10 educational and professional experience.

11 **Q. Mr. Freeman, please state your full name, position and business address.**

12 A. My name is Lavelle A. Freeman. I am employed by Eversource Energy Service
13 Company as Director of Distribution System Planning. My business address is 247
14 Station Drive, Westwood, Massachusetts 02090.

1 **Q. Have you previously sponsored testimony in this proceeding?**

2 A. Yes, I co-sponsored the rebuttal testimony filed on behalf of the Company in this
3 proceeding. The Company's rebuttal testimony sets forth my educational and
4 professional experience.

5 **Q. Mr. Walker, please state your full name, position and business address.**

6 A. My name is Gerhard Walker. I am the Manager for Advanced Forecasting and
7 Modeling for Eversource Energy. My business address is 247 Station Drive,
8 Westwood, Massachusetts 02090.

9 **Q. Have you previously sponsored testimony in this proceeding?**

10 A. Yes, I co-sponsored the rebuttal testimony filed on behalf of the Company in this
11 proceeding. The Company's rebuttal testimony sets forth my educational and
12 professional experience.

13 **Q. Mr. Cosgro, please state your full name, position and business address.**

14 A. My name is Matthew Cosgro. A. My name is Matthew Cosgro. I am Lead
15 Engineer, Distribution System Planning for Public Service Company of New
16 Hampshire d/b/a Eversource Energy. My business address is 780 North
17 Commercial Street, Manchester, NH 03101.

18 **Q. What are your principal responsibilities in this position?**

19 A. As Lead Engineer, I am responsible for the long-term planning and analysis of the
20 New Hampshire distribution system.

1 **Q. Please summarize your professional and educational background.**

2 A. I graduated from Western New England College in 2008 with a Bachelor of Science
3 degree in Electrical Engineering. I earned a Master of Science degree in Power
4 Systems Management from Worcester Polytech Institute in 2013. I began working
5 for the Company as a student intern in Distribution Engineering. Upon graduation
6 in 2008 I participated in the two-year Engineer in Training program that has new
7 employees experience various departments within the company. At its completion,
8 I joined the Distribution System Planning Department.

9 **Q. Have you previously testified before the Department or other regulatory**
10 **agencies?**

11 A. No, I have not previously testified before the Commission.

12 **Q. Ms. Gionfriddo, please state your full name, position, and business address.**

13 A. My name is Tracy A. Gionfriddo. I am a Senior Environmental Specialist for the
14 Sustainability Team at Eversource Energy Service Company. My business address
15 is 107 Selden Street, Main Building North, Second Floor, Berlin, Connecticut.

16 **Q. What are your principal responsibilities in this position?**

17 A. As a Senior Environmental Specialist in Sustainability, I am responsible for
18 supporting the Company's response to climate change, as well as monitoring
19 energy and multi-disciplinary environmental policies relevant to the Company. I
20 oversee the completion of the Corporate Greenhouse Gas Inventory and its

1 independent verification as well as a multitude of voluntary and required
2 greenhouse gas emissions reporting. I am also responsible for tracking and
3 forecasting greenhouse gas emissions as they relate to Eversource's 2030 Carbon
4 Neutrality Goal, among other sustainability initiatives. In my policy function, I
5 coordinate responses from cross-functional groups to proposed state and federal
6 environmental laws and regulations and represent Eversource during coordination
7 with state and Federal agencies.

8 **Q. Please summarize your professional and educational background.**

9 A. I graduated from Colby College in Waterville, Maine in 1989 with a Bachelor of
10 Arts degree in biology and environmental studies. I earned a Master of
11 Environmental Management from Duke University in 1991. I have over 30 years'
12 experience in the environmental field working for the State of North Carolina, as a
13 consultant for the United States Environmental Protection Agency, and as an air
14 and general consultant for several groups. For the majority of my career, I worked
15 as an Environmental Analyst at two law firms providing subject matter expertise in
16 compliance, litigation and transactional cases. In 2007, I joined Eversource
17 (formerly Northeast Utilities).

18 **Q. Have you previously testified before the Commission or other regulatory**
19 **agencies?**

20 A. I have not testified before this Commission. I have testified before regulatory
21 agencies in both Connecticut and Massachusetts as well as legislative commissions

1 and subcommittee hearings in Connecticut.

2 **Q. What is the purpose of your joint testimony?**

3 A. The purpose of our joint testimony is to support the Company’s supplement to its
4 2020 Least Cost Integrated Resource Plan (“2020 LCIRP”), which accompanies
5 this testimony (the 2020 LCIRP Supplement). The Company agreed to file the
6 2020 LCIRP Supplement in response to the direct testimony of the Department of
7 Energy (“DOE”), submitted on August 19, 2022.

8 This testimony also addresses follow-up questions received from Clean Energy
9 New Hampshire (“CENH”) at the technical session conducted subsequent to the
10 Company’s filing of rebuttal testimony, regarding how the Company will
11 incorporate transition of the electric grid into future iterations of the LCIRP. As
12 detailed in the Company’s rebuttal testimony, Eversource recommends that a
13 working group be convened prior to development of its next LCIRP filing to allow
14 for stakeholder input regarding how best to address the ongoing electric grid
15 transition. Our testimony provides a brief overview of certain initiatives that have
16 been commenced by the Company or its affiliates and that the Company would
17 expect to incorporate into the next LCIRP. How best to incorporate these initiatives
18 into the format of the LCIRP is an example of a topic that could be addressed by
19 the working group.

20 **Q. What is the 2020 LCIRP Supplement intended to accomplish?**

1 A. In its direct testimony, the DOE asserted that the Company has not addressed RSA
2 378:39 as part of its 2020 LCIRP filing and should submit a supplement that
3 addresses the criteria of RSA 378:39. RSA 378:39 sets forth the standard of review
4 that the Commission should apply to its review of an LCIRP. RSA 378:39 states
5 that “[i]n deciding whether or not to approve the utility’s plan, the commission shall
6 consider potential environmental, economic, and health-related impacts of each
7 proposed option.”

8 **Q. Did the Company agree with DOE’s recommendation?**

9 A. Yes. The Company considers environmental, economic and health impacts
10 associated with all of its project decisions to the extent that those factors are
11 relevant and appropriate to consider. However, the Company agrees that these
12 analytical factors were not discretely identified or discussed in the 2020 LCIRP.
13 Accordingly, this testimony is designed to present the 2020 LCIRP Supplement,
14 discussing these factors in order to facilitate the Commission’s review under RSA
15 378:39.

16 **Q. How is your testimony organized?**

17 A. Following this introduction, Section II describes how the Company’s 2020 LCIRP
18 Supplement responds to the DOE’s recommendation. Section III provides
19 additional details on the Company’s transition to support the electric grid of the
20 future. Section IV is the conclusion.

1 **II. COMPANY'S COMPLIANCE WITH RSA 378:39**

2 **Q. What statutory provisions are encompassed in RSA 378:39?**

3 A. The statutory provision designated as RSA 378:39, states as follows:

4 **378:39 Commission Evaluation of Plans.** The commission shall
5 review integrated least-cost resource plans in order to evaluate the
6 consistency of each utility's plan with this subdivision, in an
7 adjudicative proceeding. In deciding whether or not to approve the
8 utility's plan, the commission shall consider potential
9 environmental, economic, and health-related impacts of each
10 proposed option. The commission is encouraged to consult with
11 appropriate state and federal agencies, alternative and renewable
12 fuel industries, and other organizations in evaluating such impacts.
13 The commission's approval of a utility's plan shall not be deemed a
14 pre-approval of any actions taken or proposed by the utility in
15 implementing the plan. Where the commission determines the
16 options have equivalent financial costs, equivalent reliability, and
17 equivalent environmental, economic, and health-related impacts, the
18 following order of energy policy priorities shall guide the
19 commission's evaluation:

- 20 I. Energy efficiency and other demand-side management
21 resources;
- 22 II. Renewable energy sources;
- 23 III. All other energy sources.

24 **Q. Does the Company consider the potential environmental, economic, and**
25 **health-related impacts associated with its planning process and/or specific**
26 **projects that it selects?**

27 A. Yes. As explained in the Company's rebuttal testimony, there are two key drivers
28 of the Company's decisions regarding investment in its distribution system, which
29 are: (1) maintaining and improving the safety and reliability of the distribution
30 system for the benefit of all customers; and (2) accomplishing this goal at a
31 reasonable cost. On a project-by-project basis, the Company considers a range of

1 project attributes other than impact on reliability and cost, including environmental
2 considerations (e.g., potential impacts and avoidance measures to wetlands or other
3 resource areas, etc.), line losses and other factors. For an electric distribution
4 company, public-health impacts are intertwined with environmental impacts.
5 Similarly, the reliability and resiliency improvements are project impacts that have
6 a direct nexus with economic impacts. Therefore, maintaining a strong focus on
7 reliability on a project-by-project basis fulfills the statutory obligation.

8 The Company's 2020 LCIRP Supplement also discusses the reasonably available
9 methods for accounting for these impacts. Eversource Energy has performed more
10 extensive analyses of impacts associated with its system in other jurisdictions.
11 However, these more extensive analyses typically require third-party consultants
12 and significant costs that are not justified on a project-by-project basis (e.g., the
13 Connecticut integrated resource process prior to 2015). The Company's focus on
14 the reliability of the distribution system is the most cost-effective way to ensure
15 positive project impacts in the areas of environmental, economic, and health-related
16 impacts because this is the area where the Company has the greatest control and
17 that is consistent with the Company's core mission as a distribution company.

18 **Q. How does the Company evaluate the reliability of each project option?**

19 A. The Company considers several factors when evaluating the reliability benefit of
20 project alternatives. The nature of the evaluation and the data, models and tools

1 employed might be different depending on the type of project (substation,
2 distribution feeder, interconnection, etc.), but these evaluations typically include:

- 3 • Applying bulk substation and distribution feeder planning criteria to determine
4 criteria violations and evaluate alternatives and mitigation measures to provide
5 safe reliable service in accordance with planning and design standards.
- 6 • Assessing the improvement in customer reliability experience that would be
7 expected as compared with the historical or baseline reliability performance
8 measured by various indices including SAIDI, SAIFI and CAIDI.
- 9 • Evaluating the ability of the system to withstand or limit the impact of a first
10 contingency (N-1) equipment failure or fault on the electric system and
11 minimize the frequency and duration of customer interruptions.
- 12 • Reviewing the electric system exposure to asset failure due to poor condition
13 and analyzing the impact to reliable performance due to equipment that is
14 obsolete and cannot be maintained or replaced in a timely and cost-effective
15 manner.
- 16 • Evaluating alternatives for a poor performing circuit which includes
17 determining the anticipated cost per saved customer minute of interruption.

- 1 • Analyzing the interconnection requirements for load and/or distributed energy
2 resource (“DER”) and determining the electrical infrastructure design and
3 operating requirements to maintain safe, reliable service for all customers.
- 4 • Determining the impact of the project on equipment operation and aging which
5 impacts the ability to continually provide safe reliable service at a reasonable
6 cost over the equipment useful life.

7 **Q. In addition to the focus on reliability, how does the Company account for**
8 **environmental impacts at a system level?**

9 A. As discussed in the 2020 LCIRP Supplement, Eversource Energy has set an
10 aggressive greenhouse gas emissions reduction target of carbon neutrality by 2030.
11 This initiative informs Company policies including reduction of company-use
12 energy consumption and greenhouse gas emissions from its assets and operations.
13 This is in addition to work the Company is doing to interconnect clean, renewable
14 energy into New England through offshore wind, solar and other initiatives. The
15 Company also sources materials and equipment that adhere to environmental best
16 practices and comply with environmental regulatory requirements.

17 **Q. How does the Company take environmental, economic and/or health impacts**
18 **into account on a project-by-project basis?**

19 A. The Company takes these impacts into account in a variety of ways on a project
20 specific basis, where appropriate. As we discuss below, projects that require the
21 Company to replace in-kind equipment due to aging or failing assets are often not

1 subject to increased analysis because the options for these projects are limited
2 and/or subject to time constraints (to ensure that reliability objectives are met).
3 Where a project-specific analysis is appropriate, the Company has worked to
4 develop formal, objective methods for performing this analysis.

5 The Company's non-wires alternative ("NWA") framework is an example of an
6 analysis that applies to all suitable projects where the cost of the identified
7 traditional solution exceeds \$3 million. The NWA framework provides an analysis
8 tool for considering environmental impacts associated with the potential solutions
9 by evaluating solutions that can avoid infrastructure projects and thereby avoid
10 environmental impacts (e.g., impacts to wetlands). It further provides the ability to
11 provide a comparison of global CO2 emissions for certain technologies that target
12 local consumption or produce locally, such as rooftop solar. This framework uses
13 emissions factors for energy procurement through the ISO generation mix and is
14 being built out to include the ability to calculate avoided emissions from other
15 pollutants and the ability to change emissions factors as needed. The emissions
16 calculations in the new program are rarely used currently because most projects are
17 not expected to impact local emissions but the calculations are available to consider
18 emissions impacts or savings, when appropriate.

19 Section III of our testimony also provides an overview of the advanced forecasting
20 and modeling frameworks that the Company is working to integrate into its

1 planning process. This advanced forecasting and modeling framework did not exist
2 at the time that the 2020 LCIRP was developed; however, it has been integrated
3 into planning on a going forward basis.

4 **Q. With respect to environmental impact analysis, the Company’s rebuttal**
5 **testimony referenced a “decisional matrix.” Please describe when this**
6 **decisional matrix is used?**

7 A. The decisional matrix is a document that the Company uses to evaluate project
8 options. The Company has typically included portions of this analysis in its project
9 evaluation determination. However, the decisional matrix was updated in early
10 2022 to include detailed reasoning for project ranking. An example of a recently
11 completed decisional matrix is included with the Supplement as Appendix C, pages
12 1-2. The decisional matrix was used to evaluate the options for a project to address
13 asset condition and aging infrastructure at the Resistance Substation. The
14 decisional matrix shows that the Company evaluated four options and considered a
15 range of criteria including environmental impacts associated with each option.

16 The decisional matrix does not apply to all projects. Similar parameters that apply
17 to the NWA analysis discussed above, apply to use of the decisional matrix.
18 Specifically, where a project has estimated costs of less than \$3 million, relates to
19 replacement of aging or failed equipment, or must be completed in less than two
20 years, the Company would not engage in a decisional matrix analysis. Instead, the
21 Company moves quickly when it must replace aging or failed equipment.

1 However, the Company still determines determine what local, state, and/or federal
2 environmental regulations or requirements would apply (if any).

3 **Q. How are environmental impacts considered by the Company for purposes of**
4 **informing its evaluation through the decisional matrix?**

5 A. All business units across the company are responsible for ensuring environmental
6 compliance with rules and regulations. When a project is appropriate for a
7 decisional matrix analysis, environmental impacts are addressed through the
8 Sustainability and Environmental Affairs Department (“SEAD”) within the
9 Company, and initial reviews are done by the Licensing and Permitting (“L&P”
10 Group. For substation or distribution work, the Environmental Remediation Group
11 and the Environmental Response Team will be brought in as needed. The L&P
12 Group is contacted by the project sponsor (a project manager or project engineer)
13 to perform a Project Review. A copy of the Project Review form is included in
14 Appendix C of the 2020 LCIRP Supplement. The L&P team reviews the project
15 scope and completes the Project Review form to determine a high-level timeline
16 for each necessary environmental permit and associated cost estimate. Any project
17 alternatives or alternative routes presented to the L&P team are also be reviewed.
18 In addition, the L&P team presents (when applicable) additional routing
19 alternatives that may help avoid or minimize potential impacts to known habitat,
20 wetlands, and other resource areas. If there is a siting component to the project,
21 SEAD also provides any necessary environmental information to the Company’s

1 Siting Group to support development and route selection.

2 The Environmental Remediation Group meets with the project engineers to discuss
3 logistics, safety concerns, etc. as they relate to any necessary environmental
4 remediation and regulated materials management for a specific project. This allows
5 the Company to incorporate these issues into its project cost estimates and
6 evaluation. Another example of how the Company considers the environmental
7 impacts on a project-by-project basis is through coordination with the
8 Environmental Field Response Team. This team has oversight for environmental
9 compliance at substations and is responsible for managing any reuse or off-site
10 management of excavated soil located inside a substation and management of other
11 regulated materials (oils, PCBs, asbestos, etc.). The costs and logistics associated
12 with this materials management is another consideration for selection of a project
13 design alternative that may help limit premiums associated with soil management
14 costs or other material handling costs. The Company may also perform a
15 constructability review.

16 **Q. What is a Constructability Review?**

17 A. A Constructability Review is a detailed analysis that is performed to inform the
18 project cost estimation for substation projects. This review includes consideration
19 of environmental impacts for all project alternatives relied on by the Eversource
20 estimating group. A copy of a constructability review is provided in Appendix C

1 of the 2020 LCIRP Supplement.

2 **Q. How does the Company’s project evaluation account for economic impacts?**

3 A. There are three ways that the Company takes economic impacts into account when
4 it is selecting a project option. First, as discussed above, the Company ensures that
5 all projects will result in a safe and reliable system. Without a safe and reliable
6 electric distribution system, the customers and businesses located in the Company’s
7 service territory cannot function in a manner that will allow New Hampshire to
8 remain competitive. Customer expectations regarding reliable service have only
9 been increasing over time as the reliance on the electric distribution system also
10 increases. Providing a reliable electric service is therefore the best way that the
11 Company can support the economy in New Hampshire through creation and
12 retention of jobs.

13 Second, the Company weighs the costs of each project option with the projected
14 benefits to select the project with the lowest reasonable cost. In reaching this
15 determination, the Company takes the direct costs of the project into consideration
16 as well as the indirect costs that may include the ability to leverage an investment
17 in the future, or the expected lifespan of the project option.

18 Third, the Company evaluates projects to determine whether the potential solutions
19 will facilitate the transition to a modern grid including deployment of equipment
20 that will allow for higher penetration of distributed energy resource (“DER”),

1 accommodation of increased demand from heating and transportation
2 electrification, and improved mitigation and adaption to climate impacts. In the
3 same way that a reliable system will ensure that New Hampshire is competitive, a
4 modern electric grid will also ensure that the state is competitive with its neighbors
5 and can support the 21st century economy.

6 **Q. Lastly, how does the Company's project evaluation account for health**
7 **impacts?**

8 A. As an electric distribution company that has divested of its generation assets, the
9 Company's ability to influence health impacts in the State of New Hampshire are
10 limited. The Company does, however, consider whether an investment will enable
11 DER or distributed generation as part of its efforts to avoid or reduce emissions.
12 The Company also evaluates opportunities to incorporate renewable energy, which
13 creates far less harmful air pollutants and reduces GHG emissions as compared to
14 fossil fuel electricity generation. The reduction and avoidance of emissions,
15 generally speaking, has both environmental and health benefits.

16 However, the Company is able to have a positive impact on the health of New
17 Hampshire customers on a project-by project basis by considering whether project
18 solutions will enable DER and/or distributed generation. Enabling DER and/or
19 distributed generation has the potential to similarly avoid or reduce emissions,
20 which also can reduce human health impacts. Specifically in the NWA Tool
21 discussed above, the Company has the ability to compare global CO2 emissions.

1 Lastly, there are direct, positive health impacts through provision of safe and
2 reliable distribution service. A safe and reliable system means that health and
3 emergency response facilities are able to operate consistently. A safe and reliable
4 system also ensures that customer-owned heating and cooling systems operate even
5 during peak demand periods.

6 **III. SUPPLEMENTAL INFORMATION IN RESPONSE TO OCA AND CENH**

7 **Q. Did CENH provide any clarification regarding its direct testimony at the**
8 **technical session held on October 5, 2022?**

9 A. Yes. CENH clarified that it was not suggesting in its direct testimony that the
10 Company should have complied with orders that had not been issued prior to the
11 filing of the 2020 LCIRP. Instead, CENH stated that its testimony was intended to
12 convey that there were open proceedings before the Commission that the Company
13 was aware of and should have been accounted for in the 2020 LCIRP.

14 **Q. Does the Company agree with this recommendation by CENH?**

15 A. The Company does not agree that its 2020 LCIRP was deficient or requires
16 modification. However, the Company does agree that the electric distribution grid
17 is undergoing a transition that will need to be addressed in future LCIRP filings. In
18 the two years since the filing of the Company's LCIRP in October 2020, policy
19 objectives and initiatives have continued to evolve as utilities, the Commission, and
20 stakeholders engage to determine how best to facilitate the transition to more
21 renewable energy, grid modernization, electrification, etc. With the benefit of

1 dockets that are now further along or that have concluded since October 2020, the
2 Company's next LCIRP filing is expected to represent this significant shift. This
3 is why the Company has suggested in its rebuttal testimony that a working group
4 should be convened ahead of its next LCIRP filing; this working group would allow
5 for collaborative consideration of how the next LCIRP should be structured to
6 address this shift.

7 Below the Company provide examples of how it has started to address this
8 transition.

9 **Q. Has the Company begun the process of incorporating the impacts of the grid**
10 **transition into its planning?**

11 A. Yes. The Company is making adjustments to its forecasting and modeling that
12 reflect this transition. The Company is focusing on analyzing long term
13 developments in electrification and its impact on the grid. A process to efficiently
14 combine load forecasts with system planning models is being developed and
15 implemented. The Company's Massachusetts affiliate NSTAR Electric Company
16 d/b/a Eversource Energy ("NSTAR Electric") is also investing heavily in
17 automation of the planning processes; these automation investments are expected
18 to provide benefits to the New Hampshire service territory once complete.

1 **Q. Please describe the changes that the Company is undertaking with respect to**
2 **forecasting.**

3 A. The Company is making changes to its forecasting methodology that will account
4 for electrification impacts across its service territory thirty years out into the future.
5 This will allow the Company to design projects that are needed today in a manner
6 such that the projects can be leveraged to achieve long-term projections. The
7 capabilities associated with this advanced forecasting include heating potential
8 analysis, electric vehicle impact assessment, and solar modeling (rooftop and
9 ground mounted).

10 NSTAR Electric has already started to use this advanced forecasting. This
11 advanced forecasting includes two key changes: (1) identification of system
12 constraints over the next ten years to allow sufficient lead time; and (2) converting
13 policy objectives into electric demand at a feeder and station level. As part of these
14 changes, the Company and its affiliates have begun developing forecasts
15 specifically for electric vehicles, solar, heat pumps, and decarbonization goals (e.g.,
16 NSTAR Electric has developed a forecast that reflects the Massachusetts 2050
17 decarbonization goals). This advanced forecasting will be performed by the newly
18 established Eversource Energy “Advanced Forecasting and Modeling Team” as
19 part of the System Planning Group. This advanced forecasting and modeling began
20 with the NSTAR Electric service territory in Massachusetts, but the Advanced

1 Forecasting and Modeling Team will serve all three states in which Eversource
2 Energy operates, including New Hampshire.

3 **Q. Has NSTAR Electric applied this advanced forecasting to any projects?**

4 A. Yes. NSTAR Electric applied this advanced forecasting to a proposed substation
5 project in its Massachusetts service territory called the East Cambridge substation.
6 The analysis performed for that project was able to account for electric vehicles,
7 residential heat pumps, and solar PV hosting capacity at rates that were consistent
8 with the Massachusetts policy objectives.

9 NSTAR Electric Company has also proposed to implement an Electrification
10 Framework as part of its proposed performance based ratemaking plan in
11 Massachusetts. The Electrification Framework is a commitment that would require
12 the Company to plan projects over \$20 million to ensure that these projects will
13 enable Massachusetts electrification objectives. Lastly, the Company will be using
14 its advanced forecasting capabilities to support filings to the Massachusetts Grid
15 Modernization Council, which is part of House Bill 5060. The Company expects
16 to be able to leverage the experience of NSTAR Electric as it incorporates this
17 advanced forecasting into its next LCIRP.

1 **Q. Please describe the modeling changes that the Company and/or its affiliates**
2 **have begun implementing since the filing of the 2020 LCIRP.**

3 A. The Company has begun moving to a time series analysis (allowing the evaluation
4 of distribution assets over every hour of a forecasted year as opposed to a single
5 worst case scenario) both for DER interconnection and system planning. This will
6 have impacts on how the Company studies interconnection and evaluates long-term
7 solutions. The Company’s proposed East Cambridge Station also used a full annual
8 time series analysis for the first time.

9 **Q. Is the Company making any improvements or changes to its customer**
10 **information systems as they relate to planning?**

11 A. Yes, the Company has been investing in tools that will facilitate interconnection.
12 The New Hampshire hosting capacity maps are expected to go live in the next six
13 months. In addition, NSTAR Electric uses a tool called “Gridtwin” in
14 Massachusetts that allows property searches for solar developers in combination
15 with NSTAR Electric’s hosting capacity maps and interconnection cost estimates.
16 This tool is planned to be deployed in New Hampshire in 2023.

17 The Company is also working on attaining capital funding to deploy the Advanced
18 Load Forecasting capabilities through LoadSeer¹ in NH in 2023.

¹ <https://integralanalytics.com/index.php/products/loadseer/>

1 Also expected to be in service by the end of 2023, is a new tool that the Company
2 is deploying that will enhance the interconnection application process while also
3 enabling a more efficient use of DER data for inclusion in system planning studies.

4 Lastly, the Company is working on improvements to the hosting capacity
5 information (e.g., load hosting capacity for electric vehicle chargers) that will be
6 rolled out over the next 2-3 years. Some of these improvements will first be tested
7 through the grid modernization efforts that have begun in Massachusetts and then
8 deployed to New Hampshire. This is another example of an improvement where
9 the Company will be able to leverage the experience of its affiliate.

10 **V. CONCLUSION**

11 **Q. Has the Company complied with the requirements of 378:39?**

12 A. Yes. RSA 378:39 is a statutory provision that sets forth how the Commission
13 should review LCIRPs and requires the Commission to consider the potential
14 environmental, economic and health-related impacts of each proposed option. The
15 Company's 2020 LCIRP together with this supplement has provided sufficient
16 information to inform this analysis by explaining how the Company accounts for
17 each of these impacts in its planning and decision-making processes.

18 **Q. Has the Company started to account for the electric grid transition in its**
19 **distribution system planning process?**

20 A. Yes. In the time since the 2020 LCIRP was filed, the Company has begun to

1 account for the electric grid transition through advanced forecasting, modeling, and
2 interconnection tools that will facilitate DER. These advances address the
3 initiatives and dockets that were referenced by OCA and CENH in their testimony
4 and that the Company expects to address these changes in the next iteration of its
5 LCIRP. The working group recommended by Eversource in its rebuttal testimony
6 is the appropriate forum for additional consideration of this electric grid transition
7 and how best to account for it in the next LCIRP.

8 **Q. Does this conclude your testimony?**

9 A. Yes, it does.