

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

Docket No. DE 19-XXX

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities  
Least Cost Integrated Resource Plan

**DIRECT TESTIMONY  
OF  
ROBERT JOHNSON, JR.,  
JOEL RIVERA,  
ANTHONY STRABONE,  
AND  
HEATHER M. TEBBETTS**

July 15, 2019

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**I. INTRODUCTION AND BACKGROUND**

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

**A.** My name is Robert Johnson, Jr. and my business address is 9 Lowell Road, Salem, New Hampshire.

**Q. By whom are you employed and in what position?**

**A.** I am employed as the Project Engineer - Electric by Liberty Utilities Service Corp. ("Liberty") which provides services to Liberty Utilities (Granite State Electric) Corp. ("Granite State" or "the Company"). In my capacity as Project Engineer - Electric, I am responsible to manage and coordinate the development and maintenance of distribution construction standards and material specifications, engineering policies and procedures, and engineering standards programs.

**Q. Please describe your educational background and certifications.**

**A.** I graduated from Northeastern University in 1986, earning a Bachelor's Degree in Electrical Engineering (BSEE). I also earned a Master's Degree in Power Systems Management from Worcester Polytechnic Institute in 2009.

**Q. Please describe your professional experience.**

**A.** In 1986, I began my engineering career as an Electrical Engineer with Metropolitan District Commission, Boston, Massachusetts, responsible for design, installation, and maintenance of electrical systems and equipment, lighting, and traffic control systems for the Division. In 1987, took a Field Engineer position with Massachusetts Electric ("NEES") in North Andover, Massachusetts, responsible for engineering design of

1 overhead and underground distribution facilities and coordinating construction projects  
2 with internal and external stakeholders. In 1993, I was promoted to T&D Operations  
3 Manager, responsible for the coordination and supervision of all aspects of the  
4 Transmission and Distribution operations in the Tewksbury satellite of the Merrimack  
5 Valley District, Massachusetts Electric Co. I progressed through NEES T&D Operations  
6 Management with increasing responsibilities from 1996 through 2000 with Manager  
7 positions in Salem, New Hampshire (Granite State Electric) in 1996 and Weymouth,  
8 Massachusetts (Massachusetts Electric) in 1997. In 2000, I took a position as  
9 Coordinator Overhead Lines with O&M Support Services with National Grid Service  
10 Co., responsible for coordinating overhead practices and formulating consistent systems  
11 policies and procedures based on optimal practices. In 2002, I progressed to Lead  
12 Coordinator in Distribution Engineering Services responsible for planning, developing,  
13 and coordinating the implementation of policies and techniques for electric overhead and  
14 underground distribution standards, construction, operations, and maintenance for the  
15 distribution system. In 2009, I took a position as Manager, Transmission Scheduling for  
16 TLS and Substation Construction National Grid, responsible for ensuring that the  
17 Scheduling group developed a close working relationship with both the New York and  
18 New England In-House Construction team to provide an accurate construction schedule  
19 within an 18-month rolling work plan in Primavera. In 2011, I took a position at Liberty  
20 Utilities NH as Program Manager, Compliance, Quality, & EM – Standards, Policies and  
21 Codes, responsible for the development and maintenance of Liberty Utilities Overhead  
22 and Underground Distribution Construction Standards, Liberty Utilities Electric Material  
23 Specifications, and Electric Operating Procedures (“EOP”).

1   **Q.    Have you previously testified before the New Hampshire Public Utilities**  
2       **Commission (“the Commission”)?**

3   **A.    Yes, in 1997 in relation to a December 1996 storm and reliability hearings.**

4   **Q.    Mr. Rivera, please state your full name and business address.**

5   **A.    My name is Joel Rivera and my business address is 9 Lowell Road, Salem, New**  
6       **Hampshire.**

7   **Q.    By whom are you employed and in what position?**

8   **A.    I am employed as the Manager of GIS and Electric System Planning by Liberty . In my**  
9       **capacity as Manager of GIS and Electric System Planning, I am responsible for managing**  
10      **Granite State’s electric system capacity, reliability, integrity, interconnections, protection**  
11      **systems, equipment and system upgrades, prioritization, and associated budget estimates.**

12   **Q.    Please describe your educational background and certifications.**

13   **A.    I graduated from Universidad Interamericana de Puerto Rico in 2003, earning a**  
14      **bachelor’s degree in electrical engineering. I also earned a master’s degree in electrical**  
15      **engineering from the University at Buffalo in 2017. I am a registered professional**  
16      **engineer in the state of New Hampshire.**

17   **Q.    Please describe your professional experience.**

18   **A.    In 2006, I began my engineering career as an associate engineer with National Grid USA**  
19      **(“National Grid”) in Buffalo, New York. By 2009, I had progressed to senior engineer in**  
20      **the distribution planning department for National Grid’s electric distribution system in**  
21      **Buffalo. In 2009, I was promoted to lead engineer and was responsible for distribution**

1 planning, asset management, protection, and reliability functions for National Grid's  
2 electric distribution system in both New England and New York. In 2013, I assumed the  
3 role of Planning Engineer - Electric for Liberty Utilities Service Corp. In 2018, I was  
4 promoted to Manager of GIS and Electric System Planning and I am responsible for  
5 electric and gas map records, and for developing and implementing the company's  
6 electric system planning initiatives in the electric delivery business.

7 **Q. Have you previously testified before the New Hampshire Public Utilities**  
8 **Commission ("the Commission")?**

9 **A.** Yes, I testified before the Commission on the Company's Reliability Enhancement  
10 Program for program years 2016, 2017, and 2018.

11 **Q. Mr. Strabone, please state your full names, business addresses, and positions.**

12 **A.** My name is Anthony Strabone and my business address is 9 Lowell Road, Salem, New  
13 Hampshire. I am the Manager of Electrical Engineering for Liberty and I am responsible  
14 for the electric capital work plan whereby I manage engineering and construction  
15 resources for capital projects.

16 **Q. Please describe your educational background and training.**

17 **A.** I graduated from Merrimack College in 2004 with a Bachelor of Science degree in  
18 Electrical Engineering. I received a Master's of Business Administration from Southern  
19 New Hampshire University in 2006. I received a Project Management Professional  
20 (PMP) Certification in 2017 from the Project Management Institute.

1   **Q.   Please describe your professional background.**

2   **A.**   I joined Liberty in November 2014. Prior to my employment at Liberty, I was employed  
3       by PSNH as a Substation Supervisor in Substation Maintenance from 2010 to 2014.  
4       Prior to my position in Substation Maintenance, I was a Substation Engineer in  
5       Substation Engineering from 2008 to 2010 and an Engineer in the System and Planning  
6       Strategy department from 2004 to 2008.

7   **Q.   Have you previously testified before the Commission?**

8   **A.**   Yes, I testified in support of the Company's 2019 step adjustment in Docket No. DE 16-  
9       383.

10   **Q.   Ms. Tebbetts, please state your full name, business addresses, and position.**

11   **A.**   My name is Heather M. Tebbetts and my business address is 15 Buttrick Road,  
12       Londonderry, New Hampshire. I am Manager of Rates and Regulatory Affairs for  
13       Liberty and am responsible for providing rate-related services for Granite State.

14   **Q.   Please describe your educational background and training.**

15   **A.**   I graduated from Franklin Pierce University in 2004 with a Bachelor of Science degree in  
16       Finance. I received a Master's of Business Administration from Southern New  
17       Hampshire University in 2007.

18   **Q.   Please describe your professional background.**

19   **A.**   I joined Liberty in October 2014. Prior to my employment at Liberty, I was employed by  
20       Public Service Company of New Hampshire ("PSNH") as a Senior Analyst in NH  
21       Revenue Requirements from 2010 to 2014. Prior to my position in NH Revenue

1 Requirements, I was a Staff Accountant in PSNH's Property Tax group from 2007 to  
2 2010 and a Customer Service Representative III in PSNH's Customer Service  
3 Department from 2004 to 2007.

4 **Q. Have you previously testified before the Commission?**

5 **A.** Yes, I have testified on numerous occasions before the Commission.

6 **II. PURPOSE OF TESTIMONY**

7 **Q. What is the purpose or your testimony?**

8 **A.** Order No. 26,039 (July 10, 2017) in Docket No. DE 16-097 approved Granite State's  
9 LCIRP and established July 1, 2019, as the deadline for the Company to file its next  
10 LCIRP. RSA 378:38 prescribes the contents of the 2019 LCIRP that Granite State would  
11 file by that date. However, Staff's February 12, 2019, "Staff Recommendation on Grid  
12 Modernization" filed in Docket No. 15-296 proposed that the Commission substantially  
13 augment the existing LCIRP requirements through what Staff called an "integrated  
14 distribution plan," or IDP. The IDP, as proposed by Staff, would have some elements of  
15 the existing LCIRP statute plus many new requirements, the details of which would be  
16 refined through a working group process over the coming year. A comparison of the  
17 items listed in the LCIRP statute, RSA 378:38, with the items to be included in the  
18 proposed IDP, confirms that the IDP would be a far more comprehensive document than  
19 an LCIRP. Given these substantial differences, Staff also acknowledged that a waiver of  
20 the requirement to file the next LCIRP for Granite State and the other utilities would be  
21 appropriate. Accordingly, the Company requested a waiver of the requirement to file its  
22 LCIRP by July 1, 2019, for the "good cause" reason that a 2019 LCIRP filing would be a



1 wasted effort because it would almost immediately be superseded (or satisfied) by the  
2 proposed 2020 IDP. The time spent evaluating and adjudicating the 2019 LCIRP through  
3 the second half of 2019 and into 2020 (Granite State's prior LCIRP proceedings took 18  
4 months) would overlap with the working group schedule that Staff proposed to refine and  
5 establish the IDP process. And just when the Commission may be in a position to rule on  
6 the 2019 LCIRP, the Company would be filing the 2020 IDP, which would cause all  
7 involved to cast aside the 2019 LCIRP and focus on the 2020 IDP. With the Staff  
8 recommendation, the Company believed it would be a more efficient use of utility and  
9 Staff resources to delay or waive that LCIRP filing requirement to allow Liberty to file its  
10 first IDP in 2020. Staff has recommended that the electric utilities seek waivers of  
11 LCIRP filing requirements from the Commission to allow them to focus their efforts on  
12 preparing "more robust, integrated, and transparent IDPs." On June 14, 2019, the  
13 Company received Order No. 26,261 partially granting the request for a waiver but  
14 requiring the Company to make a more limited filing by July 15, 2019, with the  
15 following updates to its 2016 LCIRP:

- 16 1. Confirmation that the utility is currently following the process of system planning  
17 using established procedures, criteria, and policies outlined in its 2016 LCIRP, and  
18 achieving the objectives included its 2016 LCIRP.
- 19 2. Copies of adopted standard operating procedures for employees and managers  
20 integration day-to-day and long-term planning consistent with the Company's  
21 objectives of Least Cost Planning.

22 This testimony, which summarizes the Company's current practices for system planning  
23 and day-to-day activities, providew the information necessary to comply with Order No.  
24 26,261.

The Company is providing the following attachments:

- Attachment 1: Distribution Asset Strategy and Distribution Asset Management documents
- Attachment 2: Planning Criteria
- Attachment 3: 2018-2034 Seasonal Peak Forecast
- Attachment 4: Bellows Falls Problem Identification example
- Attachment 5: 2016 & 2017 Capital Work Plan results
- Attachment 6: Electric Operating Procedures

### **III. CURRENT PRACTICES**

#### **A. System Planning**

**Q. Please describe the tools the Company provided in its last LCIRP to evaluate the distribution system.**

**A.** A variety of tools enable planning engineers to evaluate fault duty, coordination of protective devices, loading on all facilities, and voltage on all electrical system elements. The actual electrical configuration can be modeled in these tools, which allow the simulation of various system conditions and subsequent analysis. The primary modeling and analysis application tools are:

- The SynerGee Electric 6.1 load flow program models supply system and distribution feeders. It also assists in determining coordination between protective devices and short circuit duty at all sub-transmission and distribution facilities.

- 1           • The Geographical Information System (“GIS”) geographically maps supply and  
2           distribution lines and is used to store attribute data for different asset class of the  
3           distribution system. Using data contained in the Cogsdale system, the GIS allows  
4           to determine customer demands at a service point level and/or a supply  
5           transformer level. This data is exported to SynerGee Electric 6.1 to make part of  
6           the electric system model that is used for planning studies.
- 7           • The Supervisory Control and Data Acquisition (“SCADA”) system provides real  
8           time loading and voltage data for monitored facilities such as substation breakers  
9           and line reclosers and provides historical load and voltage data for various  
10          electrical facilities.
- 11          • The Responder System serves as an outage management system and provides real  
12          time outage information and a consolidation and statistical analysis of historical  
13          reliability data.
- 14          • The Quadra system serves as a work management tool, as well as an estimation  
15          tool.

16   **Q.     Is the Company still using these tools to evaluate the distribution system for**  
17   **planning purposes?**

18   **A.     Yes.**

1 **Q. Does the Company have documentation that it has established procedures, criteria**  
2 **and policies for employees and managers integration day-to-day and long-term**  
3 **planning consistent with the Company's objectives of Least Cost Planning?**

4 **A.** Yes. Please see Attachment 1 for the guidance documents and strategies used to evaluate  
5 the distribution system for planning purposes. These documents have been in place since  
6 the Company was previously owned by National Grid and have been updated to reflect  
7 Granite State's most recent asset investments. Standard operating procedures are used by  
8 the operations department in the operation and maintenance of the system and are not  
9 considered planning documents. In addition, see Attachment 2 for the company's latest  
10 version of the Distribution Planning Criteria.

11 **B. Day-to-Day Practices**

12 **Q. Please explain how the Company integrates planning into day-to-day practices.**

13 **A.** The Electric System Planning Department at Granite State performs an annual planning  
14 process to determine what projects are necessary for adequate electric system  
15 performance, and includes reviews of: capacity, delivery voltage, reliability, asset  
16 condition, and power quality. This process is documented on Section 4.4 and Appendix  
17 C of the Company's 2016 Least Cost Integrated Resource Plan. Depending on the needs  
18 of the system and available funding, these projects may be completed either over the  
19 course of one year or multiple years. Once the projects are identified and prioritized,  
20 they are included in future years' capital budgets and depending on the available  
21 resources, are either assigned internally to the Operations department, or bid to external  
22 vendors. The Operations department follows Liberty Utilities' Distribution Overhead &

1 Underground Construction Standards and Electric Operating Procedures and any vendor  
2 working on the Company's system is required to follow the same standards &  
3 procedures, including industry best practices and OSHA guidelines.

4 **Q. Has the Company achieved its main objectives as set forth in the 2016 LCIRP?**

5 **A.** Yes. The purpose of the LCIRP is to provide the Commission with an understanding of  
6 the planning process employed by the Company to meet its obligation to provide safe,  
7 reliable, and least-cost electric service to its customers. To achieve that goal the system  
8 is planned and operated with the objective of providing safe and reliable service to  
9 customers under normal and contingency conditions incorporating existing planning  
10 criteria, area strategies, and asset strategies. When system deficiencies are identified  
11 from the annual planning review, the Company implements its processes to address those  
12 deficiencies to ensure safe, reliable, and economic service to customers.

13 The first step of the planning process is the development of a demand forecast that is used  
14 by planning engineers to project loading levels for distribution facilities. See Attachment  
15 3 for the latest demand forecast used by the Company.

16 The second step of the planning process is to identify system deficiencies for capacity,  
17 asset condition, or asset performance. In this step, several inputs are utilized such as  
18 reliability data, loading data, power quality data, field inspections, maintenance and  
19 testing data, asset strategies, and voltage data. Using an example for capacity analysis,  
20 planning engineers apply the forecasted growth rates in Step 1 and load additions to each  
21 distribution feeder, supply line, and transformer to ensure that adequate capacity exists

1 within the fifteen-year planning horizon. See Attachment 4 for a sample of the problem  
2 identification review for the Bellows Falls Planning Study Area using 2018 load and  
3 applied growth forecast. From this review, capacity concerns have been identified for the  
4 12L1 transformer under normal and contingency scenarios. In addition, initial results for  
5 the Vilas Bridge feeders 12L1 and 12L2 indicate that in 2023 the contingency loading on  
6 these feeders approach the 16MWhr limit as they are estimated at 15.2 and 15.6 MWhr  
7 respectively.

8 The third step of the planning process develops solutions that aim to satisfy planning  
9 criteria and strategies whose main objective is to provide safe, reliable, and economic  
10 service to customers. These criteria and strategies are provided in Attachment 1 and  
11 Attachment 2. As part of this process, non-wires solutions are considered. The above  
12 example for the Vilas Bridge feeder and transformer deficiencies will be evaluated for a  
13 Non-Wire Alternative.

14 The fourth step of the planning process prioritizes all system deficiencies and given  
15 solutions via a prioritization matrix that considers the impact of the deficiency and the  
16 likelihood of occurrence. This matrix is shown in Appendix C of the 2016 LCIRP.  
17 Continuing to use the Vilas Bridge deficiency as an example, using a load at risk of 3.6  
18 MVA for the 12L2 and a likelihood of occurring in three to five years, would result in a  
19 prioritization score of 34 from a maximum of 49. This method is used as a guide to  
20 prioritize projects that will be part of the capital plan. Other considerations for inclusion  
21 into the capital plan include budget constraints or changes that may occur during the year.

1 The fifth step of the planning process involves developing the Capital Plan. The Capital  
2 Plan is approved by Senior Management based on budgetary targets from the Finance  
3 department. See Attachment 5 for the Company's Distribution Work Plan results for the  
4 year 2016 and 2017 showing success in meeting the Capital Plan. In addition, the  
5 Company has met its reliability targets for both SAIDI and SAIFI for the past four years.  
6 Between 2014 and 2018, and using five-year rolling averages, the Company has reduced  
7 the outage duration by forty minutes for the average customer while reducing the  
8 probability of being interrupted by 0.55. This improvement in reliability can be directly  
9 attributed to the strategies and processes implemented by the Company.

10 **Q. Is the Company submitting its Distribution Overhead & Underground Construction**  
11 **Standards and Electric Operating Procedures as part of this filing?**

12 **A.** Yes. As required by the Order, the Company is providing the procedures in Attachment  
13 6.

14 **IV. CONCLUSION**

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

16 **A.** Yes.

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