

**THE STATE OF NEW HAMPSHIRE**  
**BEFORE THE NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**  
**PREPARED TESTIMONY OF RUSSEL JOHNSON**  
**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE d/b/a EVERSOURCE ENERGY**  
**RELIABILITY ENHANCEMENT PROGRAM COMPLIANCE FILING - 2016**  
**Docket No. DE 09-035**

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1 **Q. Please state your name, business address, position, and responsibilities.**

2 A. My name is Russel Johnson and I am employed by Eversource Energy Service Company as the  
3 Manager – System Planning. In my role my primary responsibility is the long term planning of  
4 the transmission and distribution system in New Hampshire that is operated by Public Service  
5 Company of New Hampshire d/b/a Eversource Energy (“Eversource” or the “Company”).

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

8 A. Yes. I have testified previously in the Reliability Enhancement Program (Docket No. DE 09-035)  
9 and in the last least cost planning docket (Docket No. DE 13-177) for Eversource.

10 **Q. Please describe your educational background.**

11 A. I graduated from Clarkson University in Potsdam, NY in 1985 with a Bachelor of Science in  
12 Electrical and Computer Engineering and in 1987 with a Master of Science in Electrical  
13 Engineering with a concentration in Power Engineering.

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

15 A. Upon graduation from Clarkson University, I was hired by Public Service of New Hampshire and  
16 have held various positions in Distribution Engineering, Large Commercial and Industrial Sales,

1 System Projects, and System Planning with increasing responsibility through my current position  
2 as Manager – System Planning. I have been a licensed Professional Engineer in the State of New  
3 Hampshire since 1990.

4 **Q. What is the purpose of your testimony?**

5 A. The purpose of my testimony is to describe the Company’s Reliability Enhancement Program  
6 (“REP”) activities as they relate to the Reliability Enhancement Program called for in the “2015  
7 Public Service Company of New Hampshire Restructuring and Rate Stabilization Agreement”  
8 (the “Agreement”) submitted to the Commission.

9 Under the Agreement, in June 2015 Eversource was to make a filing with the Commission to  
10 reconcile the expenses and revenues relating to REP activities between April 1, 2013 and March  
11 31, 2015 and include a forecast of activities for the period April 1, 2015 through June 30, 2016.  
12 Eversource made the required filing in June 2015, and through Order No. 25,793 was permitted to  
13 adjust its distribution rates to collect the annual revenue necessary to recover the revenue  
14 requirements associated with REP capital additions, and operations and maintenance expenses.

15 Under the Agreement, Eversource was to make a second REP reconciliation filing in April 2016.  
16 In that filing, Eversource was to reconcile the expenses and revenues relating to REP activities  
17 between April 1, 2015 and March 31, 2016 and include a forecast of activities for the period April  
18 1, 2016 through June 30, 2017. In my testimony I will discuss the 2015 reliability results, the  
19 Company’s REP-related capital and O&M activities over the prior year, and its forecast of  
20 activities for the coming year. The reconciliation of expenses and revenues is addressed in the  
21 testimony of Christopher J. Goulding.

1 **Q. Please describe the Company's REP activities performed over the last year.**

2 A. The largest capital investment has been in the area of Distribution Automation ("DA"). This  
3 category includes the addition of pole top Supervisory Control and Data Acquisition ("SCADA")  
4 controlled devices. Other DA programs include: expanding SCADA control to lower voltage  
5 substations; replacing electromechanical relays with numerical relays; deploying additional line  
6 sensors; and expanding the communications capabilities to support each of these activities. These  
7 measures will result in interruptions to fewer customers, shorter interruption times, and  
8 significantly greater real time intelligence for operational and engineering personnel. This  
9 provides a foundation for 21<sup>st</sup> century grid operations which will allow applications of other  
10 technologies that are in early stages of development such as a Distribution Management System  
11 (DMS) directing self-healing circuits, volt/VAR optimization, and voltage management for  
12 distributed energy resources (DER) integration.

13 In addition, Eversource is conducting a Geographic Information System ("GIS") connectivity  
14 inspection (scheduled to be completed in March 2017) to accurately map each customer to the  
15 correct transformer, phase, and protective device in the GIS. This information will enhance  
16 Eversource's response to power outages and the accuracy and effectiveness of the Outage  
17 Management System (OMS) implementation and outage reporting to our customers.

18 Programs to address overhead reliability and safety that were elements of the previous REP have  
19 been continued. These include Reject Pole Replacement, Porcelain Replacement, and NESC  
20 Capital Repairs, all of which are briefly explained on page 5 of my June 10, 2015 testimony on  
21 REP in this docket. The Hit List Reliability Enhancement project (previously referred to as the  
22 Reliability Improvements Annual) provides funding for improvements in poor performing

1 circuits. New programs include: Rights of Way (“ROW”) System Hardening/Reconductoring,  
2 which rebuilds portions of lines in ROW to improve operational performance; Heather-Lite  
3 Replacement, which replaces these obsolete brackets with cross arm construction; and Circuit Tie  
4 Construction, which builds circuit ties for large radial circuits providing a backup source of  
5 power, the ability to reroute power in the event of system troubles, and the full implementation of  
6 DA.

7 Underground reliability is addressed through the continuation of the Direct Buried Cable  
8 Replacement program, which replaces direct buried cable which has reached the end of its  
9 expected life with new cable in conduit, and Direct Buried Cable Injection, used to extend the life  
10 of certain cables with certain attributes. In the first year of the program ending June 30, 2016,  
11 Eversource has planned to replace 40,000 feet and inject 20,000 feet of direct buried cable.

12 Two programs target aging and obsolete equipment in substations. The Oil Circuit Breaker  
13 (“OCB”) Replacement program is a continuation of a prior REP activity and replaces aging,  
14 obsolete oil circuit breakers. Ten additional OCB’s have been targeted for removal by June 30,  
15 2016. A new program, 4 & 12kV Aging Infrastructure, provides funding to support projects  
16 aimed at eliminating small, aging 4 & 12 kV substations. This is typically accomplished by  
17 converting the voltage such that the substation is no longer needed or replacing the substation  
18 with overhead or padmount step transformers.

19 Effective vegetation management activities continue with over 100 miles of additional Enhanced  
20 Tree Trimming (“ETT”), 10,800 Hazard Trees Removed, and 23 miles of Full Width ROW  
21 Clearing planned to be completed by June 30, 2016.

1 Similar to the prior REP, O&M activities include the O&M allocation from capital work related  
2 to REP. Also, as testified to in the June 2015 filing, Eversource has implemented a  
3 “Troubleshooter” program in New Hampshire. Following negotiations with both the IBEW  
4 Local 1837 and the USW 8938 unions, Eversource implemented the program beginning in  
5 August, 2015. The Troubleshooter Organization consists of 18 Troubleshooter positions and two  
6 Supervisors. The Troubleshooters are broken up into three six person teams working twelve hour  
7 shifts providing coverage 24 hours a day, 365 days a year to the primary coverage area. The  
8 primary coverage area consists of the Bedford, Derry, Hooksett, Milford, and Nashua Area Work  
9 Centers (“AWCs”). This coverage area includes 235,704 customers across 1,052 square miles.  
10 When available, the Troubleshooters also provide coverage to a secondary coverage area  
11 consisting of the Epping, Keene, Newport, Portsmouth, Rochester and Tilton AWCs. This  
12 secondary coverage area includes 229,341 customers across 2,642 square miles. Eversource has  
13 utilized this organization to provide improved response times to emergency situations for both  
14 customers and municipal partners. Additionally, implementing this program has allowed  
15 Eversource to eliminate the legacy “Loss of Service” investigation charges to customers, which  
16 have improved customer satisfaction by removing the service charge conversation on the initial  
17 trouble and outage calls.<sup>1</sup>

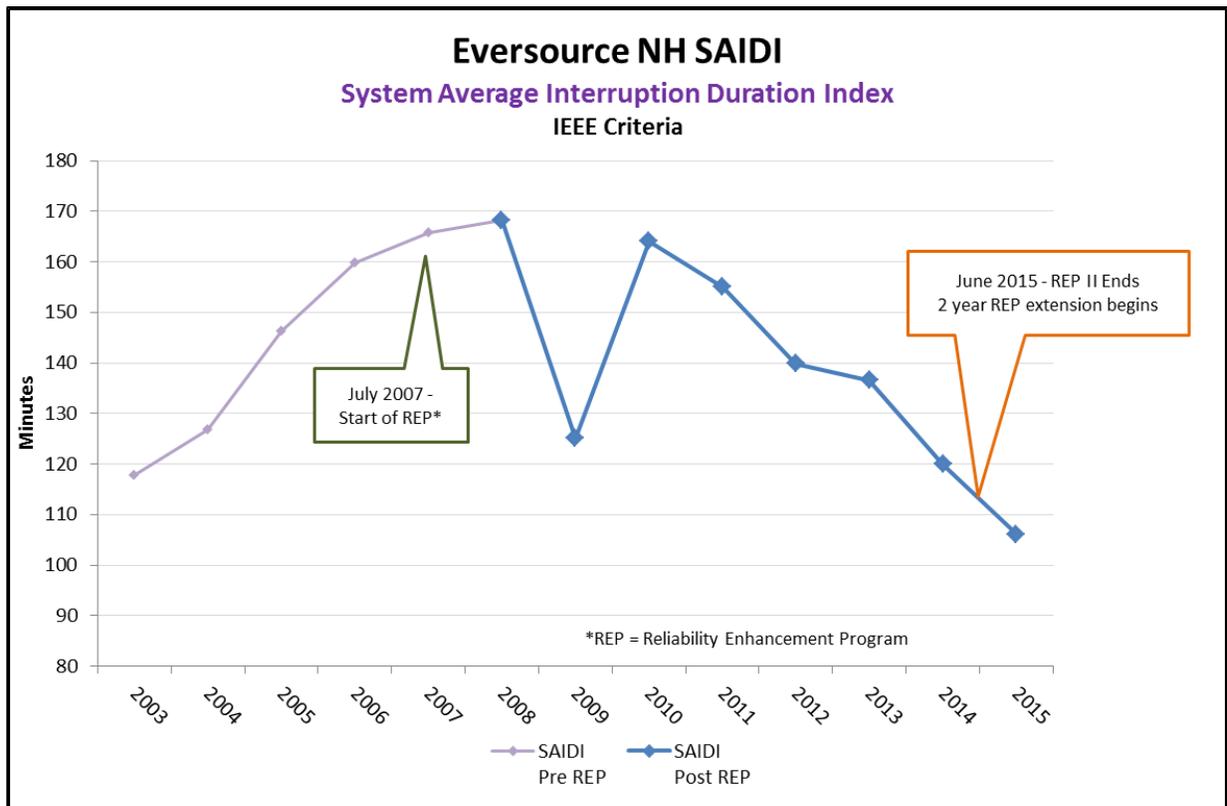
18 Additional O&M activities include: maintenance of distribution lines in ROW to address items  
19 such as damaged insulators and heating connectors or splices and maintenance of equipment  
20 associated with the significant increase in deployment of distribution automation.

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<sup>1</sup> The Commission approved the elimination of that charge in Order No. 25,842 (November 20, 2015) in Docket No. DE 15-467.

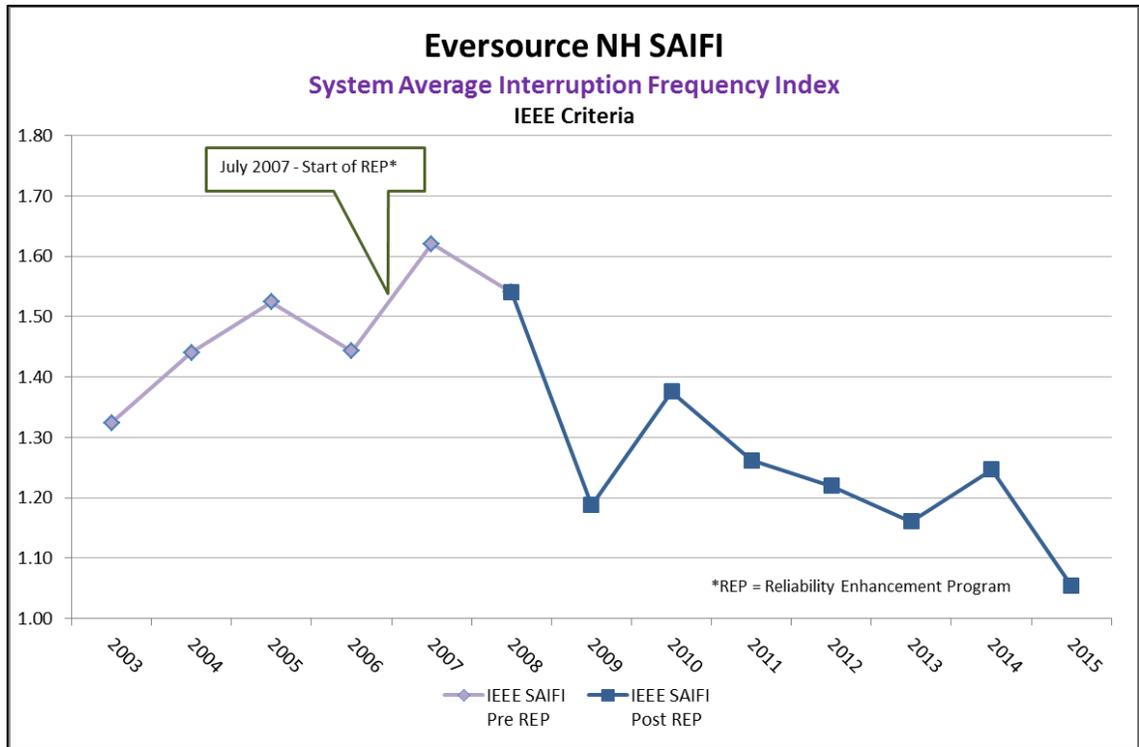
1 **Q. Has the REP achieved the goals you've just described?**

2 A. Yes, the REP program has led to a sustained improvement in the reliability of the Eversource  
3 distribution system. The charts below illustrate the reliability performance before and since the  
4 introduction of the REP program. As shown on the first chart, since the start of the REP, there  
5 has been a steady decline in the average number of minutes the typical customer is without  
6 power. REP, coupled with favorable weather patterns, meant that 2015 was another year of  
7 significant reliability progress.



8

1 The next chart shows a similar reduction in the frequency of outages for the typical customer.



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3 Clearly, the REP has had, and is having, a sustained and measurable positive impact on system  
4 reliability for Eversource's customers

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

6 **A.** Yes, it does.

**THE STATE OF NEW HAMPSHIRE**  
**BEFORE THE NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**  
**PREPARED TESTIMONY OF CHRISTOPHER J. GOULDING**  
**REP RATE ADJUSTMENT EFFECTIVE JULY 1, 2016**  
**2016 RELIABILITY ENHANCMENT PROGRAM RECONCILIATION RATE CHANGE**  
**Docket No. DE 09-035**

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1 **Q. Please state your name, business address and position.**

2 A. My name is Christopher J. Goulding. My business address is 780 North Commercial Street,  
3 Manchester, NH. I am employed by Eversource Energy Service Company as the Manager of  
4 New Hampshire Revenue Requirements and in that position I provide service to Public Service  
5 Company of New Hampshire d/b/a Eversource Energy (“Eversource” or the “Company”).

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

7 A. Yes, I have.

8 **Q. What are your current responsibilities?**

9 A. I am currently responsible for the coordination and implementation of revenue requirements  
10 calculations for Eversource, as well as the filings associated with Eversource’s Energy Service  
11 (“ES”) rate, Stranded Cost Recovery Charge (“SCRC”), Transmission Cost Adjustment  
12 Mechanism (“TCAM”), and Alternate Default Energy rate.

13 **Q. What is the purpose of your testimony?**

14 A. Consistent with Section D. Distribution Reliability Funding of the “2015 Public Service  
15 Company of New Hampshire Restructuring and Rate Stabilization Agreement” (the

1 “Agreement”) pending before the Commission in Docket No. DE 14-238, the purpose of my  
2 testimony is to provide a detailed overview of Eversource’s request for a distribution rate  
3 adjustment to reconcile and include in rates actual Reliability Enhancement Program (“REP”)  
4 costs from April 1, 2015 through March 31, 2016 and forecasted REP costs from April 1, 2016 to  
5 June 30, 2017.

6 **Q. What is Eversource requesting in this filing?**

7 A. In this filing, Eversource is requesting that the Commission approve a REP related distribution  
8 rate adjustment for all customers effective July 1, 2016. This adjustment, as calculated today and  
9 consistent with the terms of Section D of the Agreement, results in an average increase of  
10 0.048¢/kWh to the current Distribution rates for effect from July 1, 2016 through June 30, 2017.

11 **Q. Please describe the components of the REP distribution rate adjustment and their impact  
12 on this rate request.**

13 A. For the 12 months ended June 30, 2017 the company is forecasting \$4.920M of O&M associated  
14 with the REP and \$12.481M of depreciation and return associated with the projected capital  
15 placed in service through June 30, 2016 as well as an additional \$51.159 million of projected  
16 capital to be placed in service from July 1, 2016 to June 30, 2017. This results in a total  
17 forecasted revenue requirement for the 12 months ended June 30, 2017 of \$17.401M. The REP  
18 distribution rate adjustment also includes a projected June 30, 2016 reconciliation over recovery  
19 of \$979k.

1 **Q. Please describe the detailed support for the calculation of the average REP distribution rate**  
2 **adjustment provided in Attachment CJG-1.**

3 A. Attachment CJG-1, page 1, provides a summary of forecasted July 2016 to June 2017 operations  
4 and maintenance spending, return and the depreciation expense associated with the actual and  
5 forecasted REP investments from April 1, 2015 through June 30, 2017 along with the projected  
6 over recovery associated with the reconciliation of the April 2015 through March 2016 activity  
7 and projected April 2016 through June 2016 activity. Pages 2 through 4 provide the REP capital  
8 additions by month for 2015, 2016 and 2017 as well as the associated accumulated depreciation,  
9 and accumulated deferred income taxes along with the return for the July 2016 to June 2017  
10 period. Pages 5 through 7 provide the calculation of the book depreciation for the REP capital  
11 additions taking into account the month the additions occurred. Pages 8 through 12 calculate the  
12 tax depreciation by investment year. In last year's REP filing, the Company assumed no bonus  
13 depreciation for 2015 and 2016 but a law was passed in December 2015 enacting 50 percent  
14 bonus depreciation for 2015, 50% bonus depreciation for 2016 and 50% bonus depreciation for  
15 2017 for capital placed in service.<sup>1</sup> The impacts of this bonus depreciation for 2015, 2016 and  
16 2017 have been incorporated into the filing. Page 13 calculates the accumulated deferred income  
17 taxes used to reduce rate base on page 2, 3, and 4. Page 14 calculates the rate of return using  
18 Eversource's capital structure for Quarter 3 and Quarter 4 of 2015. Page 16 calculates the June  
19 30, 2016 projected over recovery including carrying charges.

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<sup>1</sup> That law was the Protecting Americans from Tax Hikes (PATH) Act, P.L. 114-113, signed on December 18, 2015.

1 **Q. Please explain the impact that the enactment of the “PATH” allowing for bonus**  
2 **depreciation had on the ability of the company to invest in REP?**

3 A. The original planned REP investments for the 12 months ended June 30, 2017 was roughly \$40  
4 million. The passing of the “PATH” allowing for bonus depreciation to be taken for investments  
5 placed in service in 2015, 2016 and 2017 allows the company to invest \$10 million more in REP  
6 for roughly the same customer impact as the original estimated \$40 million investment with no  
7 bonus depreciation due to the impact that bonus depreciation has on the Company’s accumulated  
8 deferred income taxes (“ADIT”). Bonus depreciation increases the Company’s ADIT which is an  
9 offset to REP capital investments when calculating the return on page 2, 3 and 4 of Attachment  
10 CJG-1.

11 **Q. Please describe how the July 2015 to June 2016 Operations and Maintenance expense and**  
12 **Capital investment compared to that forecasted by the company last year and the impact on**  
13 **the forecasted June 30, 2016 over recovery provided in Attachment CJG-1 page 14.**

14 A. The operations and maintenance expense based on 9 months of actual data (July 2015 to March  
15 2016) and 3 months of forecasted data (April 2016 to June 2016) is projected to be \$5.367  
16 million. The primary driver of the difference between the forecasted O&M and actual O&M was  
17 due to higher than forecasted O&M cost associated with capital.

18 The capital placed in service based on 9 months of actual data (July 2015 to March 2016) and 3  
19 months of forecasted data (April 2016 to June 2016) is projected to be \$38.685 million. This is  
20 approximately what was budgeted in last year’s REP filing although the timing of when the  
21 capital was placed in service and bonus depreciation have contributed to lower than forecasted  
22 depreciation expense by \$469k and lower than forecasted return by \$1.188M.

1 Overall, there is forecasted to be a \$972k over recovery including carrying charges on June 30,  
2 2016.

3 **Q. Please explain Attachment CJG-2?**

4 A. Attachment CJG-2 shows the forecasted REP capital in service along with the plant account  
5 allocations and the forecasted operations and maintenance for the 12 months ended June 30,  
6 2017.

7 **Q. Please explain Attachment CJG-3?**

8 A. Attachment CJG-3 shows the proposed rates for effect July 1, 2016. The calculation starts with  
9 the current rates effective July 1, 2015 and adjusts those rates by an equal percentage to  
10 accomplish an overall REP distribution rate change of 0.048 cents/kWh.

11 **Q. Does Eversource require Commission approval of this rate by a specific date?**

12 A. Yes. Due to the number of rate components that will change, Eversource requests approval of the  
13 proposed REP Distribution rate change by Tuesday, June 28, on at least a temporary basis, to  
14 allow sufficient time to implement, test and bill the new rates on our regular schedule and to  
15 avoid any delay in billing for service rendered as of July 1, 2016 (a Friday).

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

17 A. Yes, it does.