

REDACTED

Public Service Company of New Hampshire
d/b/a Eversource Energy
Docket No. DE 19-057
Rebuttal Testimony of Erica L. Menard,
Lee G. Lajoie and David L. Plante
March 3, 2020

STATE OF NEW HAMPSHIRE
BEFORE THE
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

DOCKET NO. DE 19-057
REQUEST FOR PERMANENT RATES

**REBUTTAL TESTIMONY OF ERICA L. MENARD, LEE G. LAJOIE AND
DAVID L. PLANTE**

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

March 3, 2020

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STATE OF NEW HAMPSHIRE
BEFORE THE NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION
JOINT REBUTTAL TESTIMONY OF ERICA L. MENARD, LEE G. LAJOIE AND
DAVID L. PLANTE

PETITION OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
d/b/a EVERSOURCE ENERGY
REQUEST FOR PERMANENT RATES

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1 **I. INTRODUCTION**

2 **Q. Ms. Menard, please introduce yourself.**

3 A. My name is Erica L. Menard. I am employed by Eversource Energy Service Company as
4 Manager of New Hampshire Revenue Requirements. In my current role as Manager of
5 New Hampshire Revenue Requirements, I am responsible for the coordination and
6 implementation of revenue requirements calculations for the Public Service Company of
7 New Hampshire (“PSNH” or the “Company”) as well as the filings associated with the
8 Company’s Energy Service rate, Stranded Cost Recovery Charge, Transmission Cost
9 Adjustment Mechanism, and Distribution Rates. My previous role up until April 2019 was
10 Manager, Budgets & Investment Planning, where I oversaw the operations and
11 maintenance plan budgets, actual expenditures, and any variance analysis and reporting for

1 the Company in New Hampshire. It is in connection with that role that I am submitting
2 testimony in this proceeding.

3 My business address is 780 North Commercial Street, Manchester, New Hampshire.

4 **Q. Have you previously submitted testimony in this proceeding?**

5 A. Yes. I submitted direct testimony in this proceeding on May 28, 2019. In my direct, pre-
6 filed testimony, I provided a detailed description of the Company's Capital Planning and
7 Approval process. My professional experience and qualifications are discussed in that
8 direct testimony.

9 **Q. Mr. Lajoie, please introduce yourself.**

10 A. My name is Lee G. Lajoie. I am employed by Eversource Energy Service Company as
11 Manager of System Resiliency. As the Manager of System Resiliency, I am responsible
12 for the Company's capital budgeting process. In recent years, I have also had responsibility
13 for the REP plan, which supported up to \$40 million of capital investment annually targeted
14 at reliability projects. As that program has matured and tapered off, I have taken on broader
15 responsibility for the capital budgeting process going forward. In addition, there are two
16 internal groups that report to me, which are the reliability reporting group and the
17 distribution automation group.

18 My business address is 780 North Commercial Street, Manchester, New Hampshire.

1 **Q. Mr. Plante, please introduce yourself.**

2 A. My name is David L. Plante. I am Manager of the New Hampshire Project Management
3 Department for Eversource Energy Service Company. In this role, I am responsible for
4 managing the Project Management Department as well as the overall capital program for
5 the transmission business in New Hampshire. I also have direct project management
6 responsibilities for a significant number of large distributions projects in New Hampshire.
7 My business address is 13 Legends Drive, Hooksett, NH.

8 **Q. Briefly summarize your professional background and professional experience.**

9 A. I have more than 15 years of professional experience in the electric transmission and
10 distribution industry that includes the design, management and construction of high voltage
11 transmission line and substation projects. I joined PSNH in 1988 and served in the
12 positions of Staff Engineer and Senior Engineer through 2002. I have served in the position
13 of Lead Project Manager – Transmission Projects from 2002 until organizational re-
14 alignment in late 2015 resulting in a title change and am responsible for the execution of
15 the transmission capital program in New Hampshire, including many high profile, complex
16 transmission line and substation projects.

17 I hold a Bachelor of Science degree in Civil Engineering from the University of New
18 Hampshire. I also hold a Master Certificate in Project Management from George
19 Washington University, School of Business and Public Management.

1 **Q. To the panel, what is the purpose of your joint rebuttal testimony?**

2 A. The purpose of our rebuttal testimony is to respond to the direct testimony of Commission
3 Utility Analyst Jay E. Dudley, in which he recommends that the Commission eliminate
4 approximately \$63 million of project costs from the Company's proposed rate base, due to
5 perceived deficiencies in documentation, variances between initial budgeted amounts and
6 final project costs, and claims of inadequate planning, project management, and cost
7 control measures.

8 **II. KEY ISSUES RAISED IN MR. DUDLEY'S DIRECT TESTIMONY**

9 **Q. Have you reviewed the direct testimony of Commission Utility Analyst Jay E. Dudley?**

10 A. Yes, we have reviewed Mr. Dudley's testimony.

11 **Q. Please summarize the principal issues raised in Mr. Dudley's testimony with respect**
12 **to the Company's capital planning and management process.**

13 A. Mr. Dudley recommends that the Commission disallow approximately \$45 million of the
14 Company's proposed revenue requirement of \$69 million (a decrease of nearly 65 percent)
15 through the elimination of approximately \$63 million of the Company's proposed rate base
16 of \$1.2 billion. Mr. Dudley bases his recommendation on a review of project
17 documentation for 19 "sample" projects from 2015 to 2018. Mr. Dudley's recommended
18 disallowances are generally based on his comparison of initial project cost estimates to
19 actual project costs, shown in Table-Rebuttal-1, below.

1
2

**Table Rebuttal-1:
Summary of Plant Disallowances¹**

Vintage	Project ID	Project	Recommended Disallowance	Bates Page(s)
2018	A14W02	Daniel/Webster Substation 34.5 kV Upgrade	\$12,179,430	16-23
2018	A18VRP	Viper Replacement	\$5,108,793	23-26
2017	A14S08	Garvins Substation Rebuild	\$2,030,461	26-29
2017	A14N21	Berlin Eastside 34.5 kV Line Breaker	\$2,638,636	29-32
2015	A15EDA	Eastern Region Distribution Automation	\$4,946,558	32-33
2015	A15NDA	Northern Region Distribution Automation	\$6,959,001	
2015	A15CDA	Central Region Distribution Automation	\$3,803,390	
2015	A15SDA	Southern Region Distribution Automation	\$3,257,395	
2018	A16C09	Blaine St. Substation	\$1,714,115	33-34
2018	A16C10	Jackman Replacement Eqpt.	\$2,904,860	
2018	A16E06	West Rye Substation	\$1,658,369	
2018	A18E16	West Road Overload	\$872,801	
2018	A07X45	2018 Reject Poles Annual Program	\$653,000	
2017	A16C01	3271 Line Reconductor	\$1,687,566	
2017	NHRMTR17	NH Remote Disconnect	\$1,047,831	
2017	DL9R	2017 Distribution ROW Annual Program	\$1,140,166	
2016	A15N01	Convert Laconia	\$2,321,362	
2016	DL9R	2016 Distribution ROW Annual Program	\$1,016,934	
2015	R15RPR	REP3 Reject Poles ²	\$6,919,864	
		Total	\$62,860,532	

¹ (Dudley at Bates Page 6; Eversource-Staff 2-013).

1 In his direct testimony, Mr. Dudley presented a detailed review of project documentation
2 for four projects with costs totaling \$21,957,320 (shaded in yellow in Table Rebuttal-1,
3 above). According to Mr. Dudley’s testimony, each of these projects ran over their initial
4 budget estimates and the documentation provided by the Company in support of these
5 projects was deficient (Dudley Test. at Bates Pages 16-32). In addition, Mr. Dudley argues
6 that changed circumstances, and the associated escalations in costs over the course of these
7 projects, could have been anticipated by the Company at earlier stages of project
8 development and therefore mitigated or avoided (*id.*). Mr. Dudley recommends that the
9 variances between the original costs estimates and actual final costs for these four projects
10 be disallowed. These alleged variances total \$21,957,320 (or 35 percent of the total amount
11 recommended by Mr. Dudley for disallowance) (*id.*).

12 With regard to the four Regional Distribution Automation (“DA”) Projects (shaded in blue
13 in Table Rebuttal-1, above), Mr. Dudley asserts that the Commission should disallow all
14 costs over the original, conceptual budget estimate because the Company changed the
15 funding source for these projects from a Reliability Enhancement Project (“REP”) to the
16 Company’s base budget (Dudley Test. at Bates Pages 32-33). According to Mr. Dudley,
17 the Company was subject to a budget cap relating to the REP, which precluded completion
18 of the projects as part of the Company’s base capital outlays (Dudley at Bates Pages 32-
19 33). Mr. Dudley recommends that the Commission disallow the variances between the

² The 2015 “Reject Poles” project appears in Ms. Mullinax and Mr. Dudley’s response to Eversource-Staff 2-013 but does not appear in Mr. Dudley’s direct testimony.

1 original cost estimates and actual final costs for these four projects. These alleged
2 variances total \$18,966,344 (or 30 percent of the total amount recommended by Mr.
3 Dudley for disallowance) (*id.*).

4 With regard to the remaining ten sample projects reviewed by Mr. Dudley, he summarily
5 asserts that these projects shared the same documentation deficiencies as the four projects
6 for which he provided detail, and therefore, the Commission should disallow the cost
7 variances totaling \$21,936,868 (or 35 percent of the total amount recommended by Mr.
8 Dudley for disallowance) (Dudley at Bates Page 34; Eversource-Staff 2-013).³

9 **Q. As an initial matter, is Mr. Dudley’s “sampling” approach reasonable?**

10 A. No. At its core, the issue that Mr. Dudley is raising is one of regulatory review. Mr. Dudley
11 has not raised any concerns about the initial need for, or current “used and usefulness” of,
12 any individual project. Instead, his concerns revolve around the suggestion that the
13 Company’s project documentation is not generally compiled in a manner that answers the
14 particular questions or concerns that he has in relation to the cost management of each
15 project. The Company conducts a rigorous, iterative, “hands-on” process to manage the
16 details of every project and Company management is held responsible for completing
17 necessary projects within budget parameters. No project is undertaken without a “need”
18 and no project is allowed to languish or deviate from rigorous cost-management protocols.

³ As noted, the 2015 “Reject Poles” project appears in Ms. Mullinax and Mr. Dudley’s response to Eversource-Staff 2-013 but was not identified in Mr. Dudley’s direct testimony. Attachment CPP-Rebuttal-2 contains copies of Staff responses to Company discovery requests cited herein.

1 That said, the Company recognizes that the rigorous process that is conducted is not
2 necessarily reflected in detail in the paperwork he is reviewing because the process
3 encompasses a series of face-to-face meetings that are not transcribed into the project
4 documentation. His attention to detail and effort to review the thousands of pages of project
5 documentation submitted for review in this docket is appropriate and helpful. The
6 Company also appreciates that, going forward, it would be possible to modify the
7 presentation of information so that future regulatory review is better facilitated. Mr.
8 Dudley's concerns can be reasonably addressed on a going forward basis, now that the
9 Company is aware that a different presentation would better enable review.

10 In terms of looking back, the Company does not agree that the elimination of \$63 million
11 in completed project costs is warranted to any extent, particularly not on the basis of
12 documentation that was developed consistent with the Company's capital authorization
13 policy and that served to anchor that process. The particular documentation requirements
14 that Mr. Dudley is suggesting are not unreasonable or unworkable, but without knowledge
15 that such expectations exist for regulatory purposes, it is not proper to penalize the
16 Company on a hindsight basis, nor should the Company be penalized based on "sampling"
17 assumptions rather than a full project-by-project review.

18 In response to Eversource-Staff 3-004, Mr. Dudley states that "the significant number of
19 capital additions undertaken by Eversource since the Company's last rate case in 2009
20 precluded Staff from reviewing each of those projects due to a lack of time and available

1 resources.” (*see also* Dudley Testimony at 39 (“[D]ue to the sheer number of projects listed
2 from 2013 to 2018, Staff did not have time or the resources to conduct an in-depth review
3 of each project”). The Company agrees that, because it has not had a rate case for nearly
4 a decade, there are a significant number of capital projects and associated documentation
5 to be reviewed. The Company knows that a considerable amount of time and resources
6 would be required to review those projects. However, notwithstanding those challenges,
7 the Company assembled and produced documentation for over 500 projects for review in
8 this proceeding, which means that the sample reviewed by Mr. Dudley represents less than
9 five percent of the projects under review between 2013 and 2018. This is not a reasonable
10 basis upon which to draw generalized conclusions about all the capital investments
11 undertaken by the Company over the past decade.

12 **Q. Are there also problems with the “sampling” conclusions drawn by Mr. Dudley?**

13 A. Yes. The inferential conclusion that a documentation deficiency automatically equates to
14 imprudence is not correct. Mr. Dudley assumes that deficiencies in budget documentation
15 mean that the project was not prudently managed, regardless of whether there is any
16 relationship between the alleged document deficiencies and the Company’s management
17 of the underlying project. For example, Mr. Dudley asserts that the 10 sample projects he
18 reviewed “shared the same documentation deficiencies” but he did not provide any detailed
19 analysis to support his recommended \$22 million disallowance with his direct testimony,
20 nor did he provide the back-up detail in discovery (see Dudley Test. at Bates 33-34;
21 Eversource-Staff 3-055; Eversource-Staff 3-056; Eversource-Staff 3-057; Eversource-

1 Staff 3-059). The Company received his project detail for these projects by email on
2 February 21, 2020. The Company appreciates the work involved in the project detail and
3 the submission of the document because it is helpful to the Company in terms of
4 understanding Mr. Dudley’s core concerns. However, it did not leave sufficient time for
5 the Company to review and address the projects here. From the Company’s initial review,
6 the listed detail contains the same problems in his analysis as the other projects discussed
7 herein.

8 Thus, the back-up detail confirms that there is no reasonable basis for Mr. Dudley’s
9 recommended disallowance because the theory of disallowance for the 10 projects that are
10 the subject of the late submission is fundamentally the same as the four projects for which
11 detail was provided in his direct testimony. In particular, the bulk of Mr. Dudley’s
12 recommended disallowance is founded upon a computation that compares *direct* costs to
13 total completion costs, which include both *direct and indirect* costs associated with each
14 project, i.e., Mr. Dudley is not making an “apples-to-apples” comparison when calculating
15 the variances between initial project cost estimates and completed costs. There are other
16 problems as well, as discussed below.

17 **Q. Is Mr. Dudley’s recommendation that variances between initial cost estimates and**
18 **actual costs should be disallowed as imprudent problematic?**

19 A. Yes. Mr. Dudley recommends that the Commission disallow approximately \$63 million
20 from the Company’s proposed rate base—a total that was arrived at primarily by
21 calculating variances between initial cost estimates and actual costs for 19 sample projects

1 reviewed by Staff. Mr. Dudley’s recommendation is grounded largely upon the conclusion
2 that his computed cost variances are a dispositive indication of imprudence (Dudley at 10-
3 11, 14, 44; Eversource-Staff 3-021; Eversource-Staff 3-035; Eversource-Staff 3-039).

4 Mr. Dudley’s inferential methodology -- that a variance in project costs equates to
5 imprudence, thereby necessitating disallowance of the resulting cost “overrun” -- is not
6 correct. A cost-variance analysis has limited use if the analysis is not measured from the
7 proper start and stop point, and also does not examine the specific actions taken by the
8 Company to incur expenditures and to manage cost changes over the project life-cycle.

9 Moreover, practical constraints exist in the day-to-day management of these projects and
10 there must be some recognition that variances between preliminary budget estimates and
11 actual construction costs would exist for numerous valid reasons, many of which are
12 outside the control of the Company or arise as a result of added information that cannot be
13 ascertained until certain precursor steps are taken. After-the-fact, second guessing made
14 without the identification of specific circumstances actually constituting mismanagement,
15 is not a fair or reasonable way to assess the Company’s project-management work and will
16 create a major disincentive for the Company to invest in New Hampshire on a going
17 forward basis. Alternatively, this approach creates the situation where a significant
18 contingency must be added to project cost estimates to avoid cost overruns; thereby
19 preventing limited capital resources from being allocated to other necessary projects
20 funded by the capital program.

1 With respect to the four sample projects (Daniel/Webster Substation, Viper Replacement,
2 Garvins Substation, and Berlin Line Breaker) that were reviewed by Mr. Dudley in more
3 detail, he provides some perspective on the basis for his imprudence claim apart from cost
4 variances, which we respond to in Sections III and IV, below. However, Mr. Dudley
5 ultimately rests his recommendation for all 19 projects on the same (incorrect)
6 propositions, which are that: (1) cost variances computed between an initial project cost
7 estimate and the final project cost represent a cost “overrun,” regardless of any iterative
8 steps or unavoidable cost adjustments that had to be addressed in between; (2) variances
9 are computed using direct-only costs to total project costs, including direct and indirect
10 costs; and (3) project authorizations are alleged to be missing where, in fact, authorizations
11 are not required under the Company’s capital authorization policy.

12 **Q. Could you be more specific about the problems inherent in Mr. Dudley’s cost variance**
13 **methodology?**

14 A. Yes, Mr. Dudley’s analysis does not take into account that the cost-estimation process for
15 capital projects is necessarily iterative. Initial project budgets are generally developed
16 based on a **conceptual-level** estimate for the purpose of allowing for prioritization of
17 particular projects in relation to all other projects within the context of an overall budget
18 target for the program year. The conceptual budget figures typically do not incorporate
19 project specific design and engineering details because those details are developed later
20 (after the initial funding go-ahead is received), based on additional in-depth work
21 conducted by the Company and its outside contractors, where applicable.

1 After funding is allotted, the Company conducts graduated stages of information gathering,
2 assessment and estimation. Projections are refined to a final pre-construction cost based
3 on detailed engineering plans and/or “Engineer-Procure-Construct” or “EPC” contracts
4 and detailed cost assessments become available only as a result of the completion of
5 sequential planning steps (STAFF TS 2-051). The Company’s Project Authorization
6 policy recognizes that project budgets will be refined as the scope of the project evolves
7 based on further due diligence. The process anticipates that everything that needs to be
8 known about project costs *will not be known* at the time that a conceptual estimate is
9 derived for the purposes of overall budget approval. The Supplemental Request Form is a
10 method of tracking later iterations of the project cost, incorporating costs that are not
11 known nor ascertainable at the time of project conception for the budget approval process.

12 Conceptual budgets are prepared at the earliest stage of the project development cycle and
13 are derived from conceptual-level engineering plans and preliminary cost projections and
14 are not intended to serve as the basis for final, pre-construction cost estimate for the project.
15 Nor are those estimates an appropriate point for comparison in a cost variance analysis
16 comparing to final costs (STAFF TS-051). In all cases, Mr. Dudley has used the
17 preliminary, high-level conceptual budget estimates as a basis for comparison to final
18 project costs, which is not the same as using pre-construction estimates compared to post-
19 construction actual costs. The cost variance will be distorted where the conceptual-level
20 estimate is used as the starting point.

1 In addition, final project costs include *both direct costs and indirect costs*. However, Mr.
2 Dudley starts with direct-cost only estimates for the pre-construction basis and compares
3 those estimates to final, post-construction costs that include both direct and indirect costs.
4 This approach will always produce a *substantial* variance because the basis for comparison
5 is asymmetrical and invalid. The information provided in Attachment ELM-3 in Ms.
6 Menard’s testimony performs the comparison of pre-construction cost estimates to actual,
7 post-construction costs using direct costs on both sides of the equation, as specified in the
8 Company’s Project Authorization Policy provided in Attachment ELM-5 in Ms. Menard’s
9 testimony. These are the appropriate comparisons for evaluating project variances.

10 **Q. Please provide specific examples where Mr. Dudley’s cost variance methodology is**
11 **flawed because he is using an improper basis for comparison.**

12 A. As summarized in Table Rebuttal-2, below, and illustrated in more detail in Attachment
13 CPP-Rebuttal-1, the budget estimates for the 10 high-level “sample” projects relied on by
14 Mr. Dudley as a basis for comparison exhibit distorted variance results due to the
15 interrelated problems of direct vs. indirect costs and conceptual level estimates vs.
16 “preconstruction” budget estimates. Initial, conceptual-level budget figures (without
17 indirect costs, and not representing “pre-construction” cost estimates) are compared to the
18 actual, post-construction cost calculations including indirect costs. This approach will
19 *always* produce skewed results and will mis-characterize the Company’s project-
20 management efforts. In the table below, the comparison provided on the right-hand side

1 aligns with Attachment ELM-3 in the Menard testimony and accurately follows the
2 Company's Project Authorization Policy.

3 **Table Rebuttal-2**
4 **Corrected Comparison of Pre-Construction to Post-Construction Costs**

Project	Dudley Testimony			Attachment CPP-Rebuttal-1			
	Preliminary Conceptual Budget Estimate (excl. indirect)	Actual Costs (w/indirect)	Resulting Variance	Revised Budget Estimate (excl. indirects)	Actual Costs (excl. indirects)	Variance	Percent
A16C09 - Blaine Street Substation	\$2,255,000	\$3,969,115	\$1,714,115	\$3,151,000	\$3,027,584	\$(123,416)	(3.9%)
A16C10 - Jackman Replacement	\$4,228,000	\$7,132,860	\$2,904,860	\$5,895,662	\$5,756,771	\$(139,229)	(2.4%)
A16E06 - West Rye Substation	\$1,040,000	\$2,698,369	\$1,658,369	\$2,023,000	\$2,057,477	\$(274,524)	(11.8%)
A18E16 - West Road Overload	\$536,000	\$1,408,801	\$872,801	\$1,025,000	\$1,025,260	\$260	0.0%
A07X45 - 2018 Reject Poles Program	\$634,000	\$1,962,868 ⁴	\$1,328,868	\$1,287,000	\$1,305,753	\$18,753	1.5%
A16C01 - 3271 Line	\$771,000	\$2,458,566	\$1,687,566	\$2,193,000	\$1,976,581	\$(216,419)	(9.9%)
NHRMTR17 - 2017 NH Remote Disconnect	\$1,235,618	\$2,283,449	\$1,047,831	\$1,985,629	\$1,848,428	\$(137,201)	(6.9%)

⁴ In Mr. Dudley's initial testimony, this number was \$1,287,000. The response to Eversource-Staff 3-055 states that this number and the corresponding variance of \$653,000 were reported in error. The \$1,962,868 and variance of \$1,328,868 were corrected in the data response.

Project	Dudley Testimony			Attachment CPP-Rebuttal-1			
	Preliminary Conceptual Budget Estimate (excl. indirect)	Actual Costs (w/indirect)	Resulting Variance	Revised Budget Estimate (excl. indirects)	Actual Costs (excl. indirects)	Variance	Percent
DL9R - 2017 Distribution ROW Annual Program	\$1,239,800	\$2,379,966	\$1,140,166	\$1,869,600	\$1,883,780	\$14,810	0.8%
A15N01 – Convert Laconia	\$144,339	\$2,465,701	\$2,321,362	\$1,918,406	\$1,925,749	\$7,343	0.4%
DL9R - 2016 Distribution ROW Annual Program	\$626,198	\$1,643,132	\$1,016,934	\$1,310,300	\$1,310,309	\$9	0.0%

1 **Q. Did Mr. Dudley apply a similar methodology to the projects he reviewed in more**
2 **detail?**

3 Yes. Mr. Dudley’s characterization of the cost variances for the four Regional DA projects,
4 Daniel/Webster Substation, Viper Replacement, Garvins Substation, and the Berlin Line
5 Breaker projects are similarly problematic and are addressed in Section IV below.

6 **III. COST MANAGEMENT OF CAPITAL PROJECTS**

7 **Q. What is your understanding of “prudent” project costs?**

8 A. As Mr. Dudley notes in his responses to Eversource-Staff 3-005 and 3-021, the
9 Commission applies the prudent, used and useful standard when evaluating a utility’s
10 investment in plant, equipment or capital investments. *Liberty Utilities (EnergyNorth*

1 *Natural Gas) Corp. d/b/a Liberty Utilities*, Order No. 26,122 at 22 (April 27, 2018) (citing
2 *Pittsfield Aqueduct Company, Inc.*, Order No. 25,051 at 13 (December 11, 2009)). We are
3 not lawyers. However, as utility managers we understand that project costs may be denied
4 where there is proof of “inefficiency, improvidence, economic waste, abuse of discretion
5 or action inimical to the public interest.” *Id.* (citing *Public Service Company of New*
6 *Hampshire*, Order 25,565 at 20 (August 27, 2013)). We are also aware that, “[o]ne of the
7 critical prudence considerations when evaluating actions and decisions, is not to apply the
8 perspective in hindsight, but rather to consider the actions in light of the conditions and
9 circumstances as they existed at the time they were taken.” *Id.* (citing *Public Service*
10 *Company of New Hampshire*, Order 24,108 at 26 (December 31, 2002)).

11 **Q. In your opinion, has Mr. Dudley supported his recommendations for disallowance**
12 **with proof that the Company’s project costs are the product of “inefficiency,**
13 **improvidence, economic waste, abuse of discretion or action inimical to the public**
14 **interest?”**

15 A. No. To be sure, Mr. Dudley has raised reasonable issues relating to the regulatory review
16 of project documentation that is meaningful to Company management in terms of
17 informing the decision-making process, but which is not as informative as possible for
18 external parties trying to retrace the Company’s decisions. However, nothing cited by Mr.
19 Dudley rises to the level of substantiating a \$63 million disallowance for reasons of
20 “inefficiency, improvidence, economic waste, abuse of discretion or action inimical to the
21 public interest,” particularly when viewed from the perspective that the cost variances are

1 not making “apples to apples” comparisons between pre-construction and post-
2 construction cost estimates.

3 **Q. Does Mr. Dudley take issue with the Company’s capital investment with respect to**
4 **the “used and useful” aspect of the Commission’s standard?**

5 A. No. Mr. Dudley’s testimony does not allege any issue in relation to the “used and useful”
6 aspect of the Commission’s standard. Also, in response to Eversource-Staff 3-051, with
7 respect to the Regional DA projects, Mr. Dudley states that he “presumed that the
8 improvements are in service and used and useful on the basis that the actual costs for the
9 projects were reported by Ms. Menard in Attachment ELM-3.” Thus, Mr. Dudley’s
10 testimony, analysis, and recommendations appear to be solely focused on the cost-
11 management aspect of the Commission’s standard.

12 **Q. Does Mr. Dudley’s methodology of comparing initial cost estimates to actual costs**
13 **comport with the Commission’s standard for cost recovery?**

14 A. No. In his response to Eversource-Staff 3-021, Mr. Dudley states that his measure of
15 “reasonableness” for the Company’s capital investments is based on a comparison between
16 pre-construction costs, revised estimated costs, and total costs of the project, following the
17 same standard of reasonableness as discussed in the Commission’s Order No. 26,122, dated
18 April 2, 2018, Docket No. DG 17-048 at 22-26. However, this is not the case for several
19 reasons. Contrary to Mr. Dudley’s assertion, he did not use “pre-construction” costs as the
20 basis for the comparisons in his testimony. Instead he bases his comparison on the
21 Company’s conceptual, initial budget figures used only to prioritize one or more projects
22 among all other projects when setting the annual budget.

1 **Q. How do you respond to Mr. Dudley’s assertion that the lack of complete**
2 **documentation for the sample projects indicates a “lack of prudence” or an efficient**
3 **process for project management and cost control?**

4 A. The Company appreciates Mr. Dudley’s general critique with respect to the collection and
5 preservation of documentation for its projects for the purpose of regulatory review and is
6 fully committed to improve that process going forward. However, there are issues with the
7 analysis put forth in support of his disallowances. For example, Mr. Dudley notes that one
8 of the Company’s PAFs was unsigned (although this is inaccurate); that many PAFs did
9 not provide sufficient details for “Alternatives Considered” or “Overall Justification;” and,
10 that some Supplemental Request Forms were submitted after the project completion dates
11 (Dudley Test. at Bates Page 7, 36-37).

12 The Company accepts these as valid critiques and will endeavor to improve its
13 documentation processes to ensure that these deficiencies do not occur in the future. The
14 Company is willing to work with Mr. Dudley and Staff to identify ways in which its
15 documentation processes may be refined moving forward. However, as discussed in
16 Section IV below, several of Mr. Dudley’s criticisms of the Company’s documentation are
17 unfounded. Also, the Company does not agree with the premise that documentation
18 deficiencies amount to “imprudence” with respect to the underlying projects. A challenge
19 to prudence requires a detailed and fact intensive analysis and the existence of alleged
20 minor discrepancies in documentation is not sufficient to support the elimination of \$63
21 million of plant that is in service and used and useful for customers.

1 **IV. RESPONSE TO CLAIMS ON SPECIFIC PROJECTS**

2 **Q. Has Mr. Dudley recommended disallowances based on his assessment of the**
3 **Company’s project documentation?**

4 A. Yes. Putting aside the inherent problems with Mr. Dudley’s general methodological
5 approach, discussed above in Sections II and III, Mr. Dudley asserts that alleged
6 deficiencies in documentation and certain decisions by the Company in connection with
7 the four regional DA projects and the Daniel Substation, Viper Replacement, Garvins
8 Substation, and Berlin Line Breaker projects indicate imprudence and therefore the
9 differences between initial cost estimates and actual costs for these projects should be
10 disallowed. Below, the Company explains, project by project, where Mr. Dudley’s
11 assertions are incorrect and why the recommended disallowances are inappropriate.

12 **A. Regional Distribution Automation Projects**

13 **Q. Please provide an overview of the Regional DA projects.**

14 A. The December 2008 Ice Storm, was “one of the worst natural disasters to occur in New
15 Hampshire within the last two decades, [and] resulted in over sixty percent of New
16 Hampshire electric customers losing power.” NEI Electric Power Engineering, *New*
17 *Hampshire December 2008 Ice Storm Assessment Report*, at Page I-1 (October 28, 2009)
18 (“NEI Report”).⁵ In the aftermath of the storm, the Commission issued an RFP for a
19 consultant to review the efforts of the four electric utilities and the two largest incumbent
20 telecommunications utilities in New Hampshire prior to, during, and after the storm. The

⁵ The NEI is provided as Attachment VMP-Rebuttal-1 to the rebuttal testimony of Company witnesses Robert D. Allen and William A. Van Dam.

1 consultant's report recommended, among other things, that each electric utility should
2 install electronically controlled single and three-phase reclosers where appropriate in order
3 to improve system reliability. NEI Report at Page VII-7.

4 Distribution automation typically refers to pole-top devices that are remotely controlled
5 and that contain built-in sensors that funnel information back to operators in the Company's
6 control center in Manchester. The Company's investments in distribution automation
7 provide system operators with tools to isolate outages on the distribution system to a
8 defined segment and re-feed the unaffected segments from an alternate source of supply
9 and are in response to the December 2008 Ice Storm recommendation for electronically
10 controlled devices on the system to improve reliability as noted above. The operational
11 flexibility provided by this automation provides significant benefits to customers by
12 reducing the number of customers affected by an outage event.⁶ About 28 percent of
13 customer interruptions experienced in 2018 were resolved in under five minutes due to the
14 distribution automation already installed on the system.

15 The Company started ramping up investment in distribution automation in the fourth
16 quarter of 2014. As described in the documentation submitted by the Company in response
17 to STAFF 12-045, the four Regional DA projects reviewed by Mr. Dudley involved the
18 installation of distribution automation devices on the 34.5 kV system as part of the

⁶ In response to Eversource-Staff 3-052, Mr. Dudley acknowledges that his review of the DA projects does not consider any customer benefits analysis.

1 Company's long-term distribution automation strategy and was designed to strengthen the
2 reliability of the distribution system and lessen the impacts to customers from outage events
3 (STAFF 12-045, Attachments E, F, and G).

4 **Q. Please summarize Mr. Dudley's analysis, conclusions, and recommendation**
5 **regarding the Regional DA projects.**

6 A. Mr. Dudley quotes the following language from Attachment STAFF 12-045 (G), page 2:

7 When this project was approved, the Company expected the REP to
8 be extended at its existing funding level through the end of 2017. In
9 July of 2017 the NHPUC approved a funding level for REP for the
10 remainder of 2017 at half its previous level. In order to maintain the
11 pole top DA installations at the planned level, the decision was made
12 to change the funding source for non-REP installations to base
13 budget.

14 (Dudley at Bates Page 32).

15 Using the above quote as his starting point, Mr. Dudley postulates that, in Docket No. DE
16 17-076, the Commission imposed a spending cap for the Company's entire distribution
17 automation program when it set spending for the REP Program budget (Dudley at Bates
18 Pages 32-33). He further contends that Staff and the Commission had the impression that
19 the Company agreed to those budget limitations (*id.*). As shown in Table Rebuttal-3 below,
20 Mr. Dudley recommends that the Commission disallow all the costs above the original
21 budget estimates for the four Regional DA projects, resulting in a total disallowance of
22 \$18.9 million.

1 **Table Rebuttal-3: Recommended Disallowances for Regional DA**

Project	Recommended Disallowance
Eastern Region Distribution Automation	\$4,946,558
Northern Region Distribution Automation	\$6,959,001
Central Region Distribution Automation	\$3,803,390
Southern Region Distribution Automation	\$3,257,395
TOTAL	\$18,966,344

2 **Q. Does the Company agree with this characterization regarding a “budget cap”**
3 **prohibiting the installation of distribution automation through the four Regional DA**
4 **projects?**

5 A. No, for several reasons. First, in Eversource-Staff 3-048, the Company asked Mr. Dudley
6 whether he recalled that during discussions between the Company and Staff in Docket No.
7 17-076 the Company agreed to fund distribution automation installation only through the
8 REP. In response, Mr. Dudley stated that he did not participate in those discussions and
9 his understanding of those discussions “is limited to the filings on the record in that docket”
10 (Eversource-Staff 3-048). There is nothing in the Commission’s Order No. 26,034 or in
11 the Company’s Joint Technical Statement of June 2, 2017 in Docket No. DE 17-076 that
12 suggests the Commission imposed a generally applicable budget limitation on the
13 Company’s deployment of distribution automation projects or that the Company agreed to
14 fund distribution automation installation only through the REP. Thus, Mr. Dudley’s
15 conclusion that the Company consented to drop its distribution automation projects because
16 funding was not enabled through the REP, and the contention that the Company somehow
17 attempted to circumvent this allegedly agreed-upon budget limitation, are unsupported
18 conclusions that the Company does not agree with.

1 Second, in Eversource-Staff 3-043, the Company asked Mr. Dudley what annual REP
2 filings were reviewed to support his assumption that the Regional DA projects at issue
3 were part of the REP3 program. In response, Mr. Dudley appears to change course from
4 his testimony and states that although “it was assumed that the DA projects were associated
5 with the DA efforts under the REP program since the projects appeared to be similar in
6 purpose . . . Mr. Dudley does not state or assume in his testimony that the projects represent
7 cost overruns relative to the REP3 budget.” (Eversource-Staff 3-043). Thus, Mr. Dudley’s
8 position on this issue is unclear. What is clear is that he does not offer a detailed, fact-
9 specific analysis of the Regional DA projects showing any basis for “imprudence,” nor
10 does he offer any evidence that these projects were unreasonable or unwarranted. In fact,
11 in his response to Eversource-Staff 3-054, Mr. Dudley concedes that his recommendation
12 that \$18.9 million in costs be disallowed is not based on a finding that the Company was
13 imprudent in installing distribution automation on the distribution system. Therefore, there
14 is no foundation for a finding that the Company acted imprudently or for the cost
15 disallowance recommended by Mr. Dudley for these investments.

16 **Q. Does Mr. Dudley use the correct basis for comparison in his assessment of the cost**
17 **variances for these four projects?**

18 A. No, for each of the four Regional DA projects Mr. Dudley uses only partial costs associated
19 with these multi-year distribution automation projects as his basis for comparison. Below,
20 each group is discussed in sequence.

1 *i. A15EDA – Eastern Region 2015 DA Project*

2 For the Eastern Region 2015 DA Project, Mr. Dudley starts with the pre-construction
3 estimate of \$236,240, which *excludes* indirect costs and represents only the first-year
4 budget of a multi-year distribution automation project. He compares this cost to the actual,
5 post-construction cost of \$5,182,798, which *includes* indirect costs and covers multiple
6 years (Dudley Test. at Bates Page 32). As shown in Attachment CPP-Rebuttal-1, Line 143,
7 Column (b), the Company’s actual project cost excluding indirect costs was \$3,774,004,
8 covering the cost of 2018 installations and other installations made to complete the multi-
9 year plan. Thus, the cost variance was only \$52,004 after four years of work completing
10 the program (Attachment STAFF 12-045 F, at 3).

11 *ii. A15NDA – Northern Region 2015 DA Project*

12 For the Northern Region 2015 DA Project, Mr. Dudley uses the pre-construction estimate
13 of \$2,333,600, which *excludes* indirect costs and represents only the first-year budget of a
14 multi-year distribution automation project. He compares this cost to the actual, post-
15 construction cost of \$9,292,601, which *includes* indirect costs and covers multiple years
16 (Dudley Test. at Bates Page 32). As shown in Attachment CPP-Rebuttal-1, Line 152,
17 Column (b), the Company’s pre-construction cost estimate, *excluding* indirect costs was
18 \$6,096,000, covering additional installations to complete the multi-year plan, as compared
19 to actual, post-construction costs for the five-year plan of \$6,501,836 (*excluding* indirect
20 costs). This represents a variance of \$405,836, or approximately six percent, which is well

1 within the Company's policy requirements of 10% variance tolerance (Attachment STAFF
2 12-045 G, at 3).

3 *iii. A15CDA – Central Region 2015 DA Project*

4 For the Central Region 2015 DA Project, Mr. Dudley used the pre-construction estimate
5 of \$1,056,200 (**excluding** indirect costs), which is only the first-year budget of a multi-year
6 distribution automation project, as a basis for comparison to the actual, post-construction
7 cost of \$4,859,890 (**including** indirect costs) (Dudley Test. at Bates Page 32). As shown
8 in Attachment CPP-Rebuttal-1, Line 161, Column (b), the Company's pre-construction
9 estimate covering the additional installations to complete the multi year plan was actually
10 \$3,787,200 (**excluding** indirect costs), which is \$427,816 **under-budget** for this project
11 (Attachment STAFF 12-045 E, at 3).

12 *iv. A15SSDA – Southern Region 2015 DA Project*

13 For the Southern Region 2015 DA Project, Mr. Dudley used the pre-construction budget
14 estimate of \$764,750 (**excluding** indirect costs), which covered only 21 installations, as a
15 basis for comparison to the actual, post-construction cost of \$4,022,145 (**including** indirect
16 costs) (Dudley Test. at Bates Page 32). As shown in Attachment CPP-Rebuttal-1, Line
17 170, Column (b), the Company's pre-construction estimate for the project covering the
18 additional installations to complete the multi-year plan was \$2,938,000 (**excluding** indirect
19 costs), which is \$108,456 **under-budget** for this project. This project was not the subject
20 of any data request made during the discovery phase. The Company asked Mr. Dudley at
21 the February 12, 2020 technical session how the analysis was conducted given that no

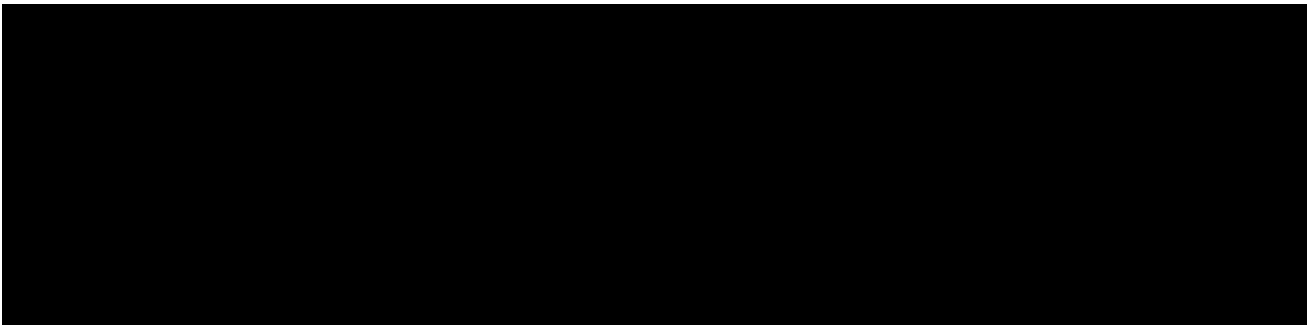
1 documentation was provided for this project. Mr. Dudley stated that he made the
2 determination based on his analysis of the three other regional DA projects and applied the
3 same methodology for disallowance. As a result, there is no variance warranting
4 disallowance.

5 **B. Daniel/Webster Substation 34.5 kV Upgrade**

6 **Q. Please provide an overview of the Daniel/Webster Substation project.**

7 A. As discussed in the Company's response to OCA 6-098, the Daniel/Webster Substation
8 project consisted of the replacement of three transformers (20 MVA, 20 MVA, and 16
9 MVA) operating in parallel with the installation of two 44.8 MVA 115-34.5 kV
10 transformers and associated low-side breakers that feed a new switching yard. The new
11 switching yard has two busses with a bus tie breaker and associated line breakers, including
12 a dedicated breaker to serve the New Hampshire Electric Cooperative Webster Substation;
13 two 5.4 MVAR capacitor banks; and provisions for a mobile substation hookup (OCA 6-
14 098; Attachment OCA 6-098A (Confidential)). A new control house was also installed to
15 serve the new switching station (OCA 6-098).

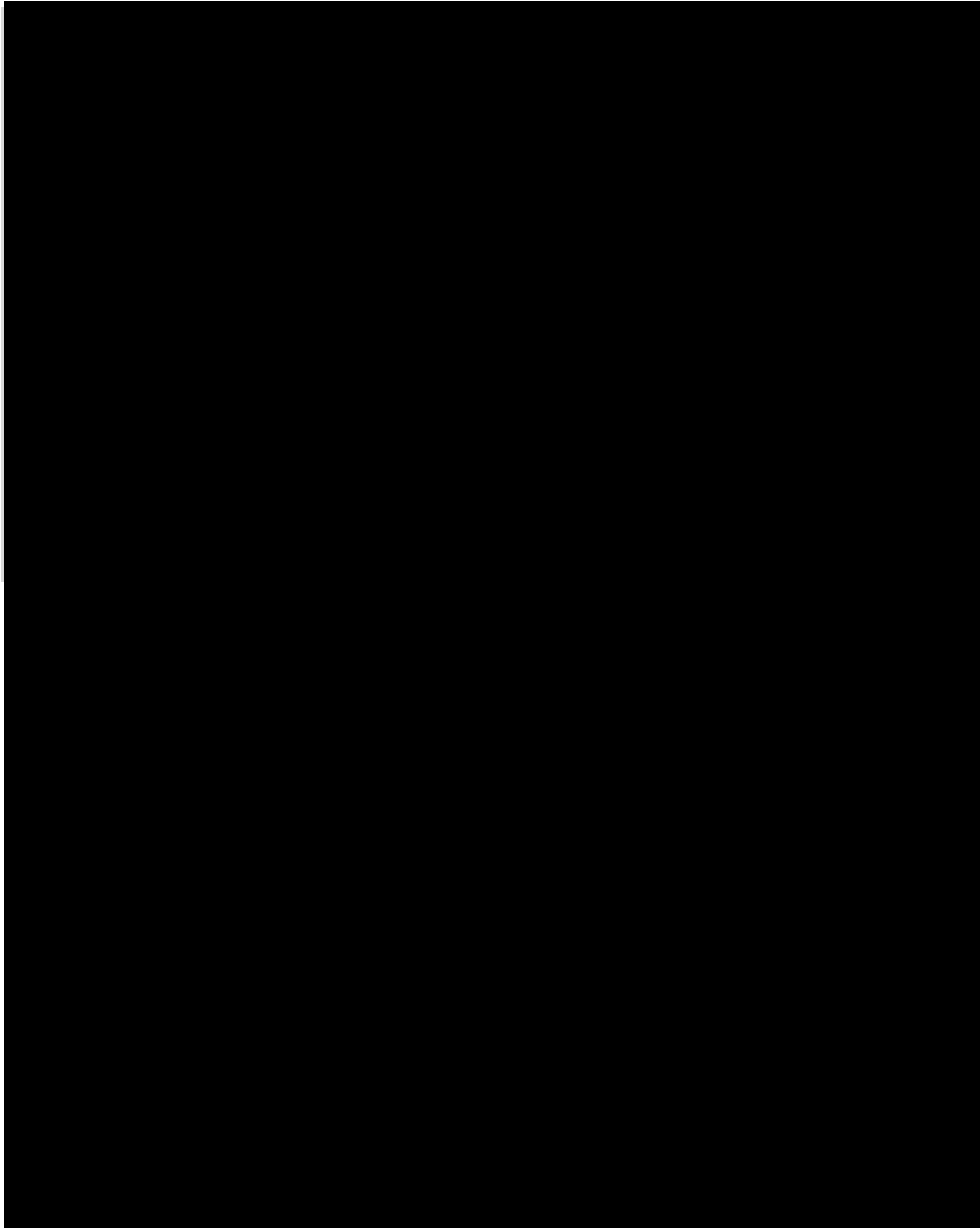
16 **Q. Please summarize Mr. Dudley's analysis, conclusions, and recommendation**
17 **concerning the Daniel/Webster Substation Project.**



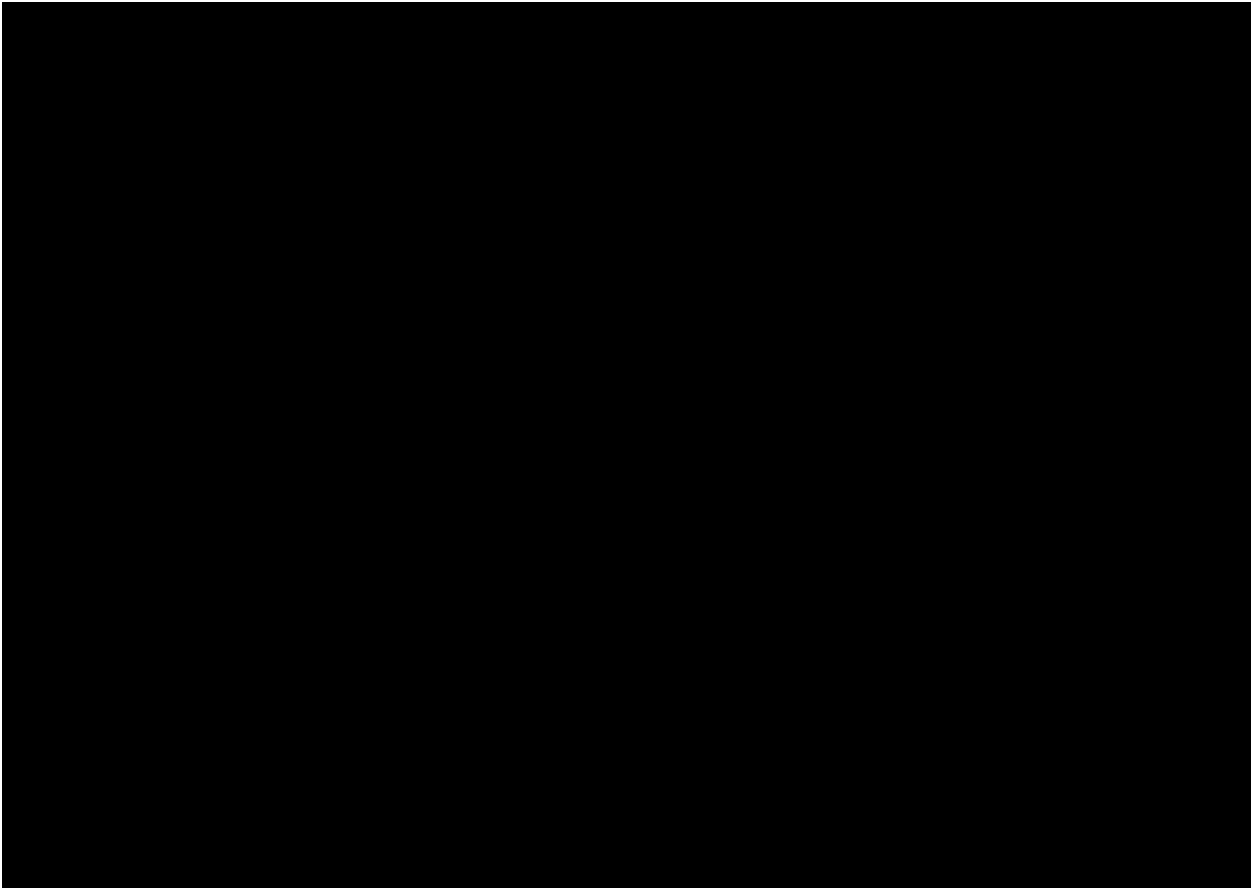
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Public Service Company of New Hampshire
d/b/a Eversource Energy
Docket No. DE 19-057
Rebuttal Testimony of Erica L. Menard,
Lee G. Lajoie and David L. Plante
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14 **Q. How do you respond to Mr. Dudley’s assertion that the Company’s projection for**
15 **increased load growth in the service area was not reasonable and led to the**
16 **overbuilding of the project?**

17 A. The principal flaw in Mr. Dudley’s perspective is that he suggests the load growth that was
18 anticipated was related to the Northern Pass Transmission project, *which is not correct*.
19 The Daniel/Webster Substation upgrade was originally designed to address load growth in
20 the Lakes Region, which encompasses the vacation destinations of Lake Winnepesaukee,
21 Lake Winnisquam and Newfound Lake. The lead time associated with a project with the
22 scale of the Daniel/Webster Substation upgrade is long and, at the time the Company was
23 conducted its planning, construction in the Lakes Region was robust. Thus, the project was

1 scaled to address the ongoing and forecasted load growth in this region, *not to address*
2 *Northern Pass*. The Northern Pass Transmission project entered into the discussion only
3 because it had passed ISO-New England’s I.3.9 process, and the proposed converter station
4 in Franklin would place an additional load on the Webster transformers. This potential
5 load increase was never included in the substation’s forecast and therefore did not influence
6 the planning study results. The impetus for the project was the ongoing and forecast load
7 growth in the Lakes Region not the Northern Pass Transmission project, which are two
8 separate drivers that Mr. Dudley has conflated (see Attachment OCA 6-098B-
9 CONFIDENTIAL).

10 **Q. How do you respond to Mr. Dudley’s assertion that there was no reasonable economic**
11 **justification for the cost changes reflected in the Supplemental Request Form?**

12 A. The Daniel/Webster Substation project was undertaken to address asset condition and the
13 redesign needed to contemplate ongoing load growth in the Lakes Region. The Company
14 recognized that it was dealing with a very old substation, in poor condition, encompassing
15 electric distribution components and controls that, during the project, were discovered to
16 be in worse shape than expected.

17 The initial project estimate for the new Daniel substation was developed in late 2014. This
18 conceptual-level estimate contemplated installing two transformers within the Daniel
19 substation. The conceptual-level estimate was prepared prior to the commencement of
20 project-specific engineering for the sole purpose of securing funding through the Capital
21 Budget Review Committee (“CBRC”). The conceptual-level estimate did not include any

1 costs associated with 115kV transmission lines because the project-specific engineering
2 assessment had not yet been performed (ultimately, however, these costs would not be
3 included in the project distribution costs). The conceptual-level estimate is essentially
4 intended to be an “order of magnitude” estimate to allow for prioritization within the annual
5 capital-budget process. The conceptual-level estimate is developed “pre-construction,” but
6 does not represent the pre-construction estimate proper for a variance analysis because
7 there are many steps to be completed before a final, pre-construction estimate is developed.

8 In 2015, the preliminary engineering phase was started. During this phase, further details
9 were developed regarding the proposed layout, constructability and outage requirements
10 for the project. The specific solution identified through the engineering phase required the
11 construction of two 115kV lines between the Webster and Daniel substations. These types
12 of lines required the use of self-supporting line structures on concrete foundations, as well
13 as terminal structure additions within the Webster substation, which presented challenges
14 due to the layout and available space within the existing station. During this phase,
15 significant challenges were identified with respect to the planned outages that would be
16 necessary to complete the work. Also, during this timeframe, the approval authority for
17 distribution substation projects shifted from the CBRC to the newly formed Eversource
18 Project Approval Committee (“EPAC”).

19 In 2016, the preliminary engineering phase was completed. To address the challenges
20 scoped out as part of this phase, it was necessary to construct a distribution switch yard

1 adjacent to the Webster Substation to site the transformers, thus modifying the layout of
2 the Daniel Substation and eliminating the need for the two 115kV lines between the two
3 substations. A revised project estimate was developed reflecting the updated scope and re-
4 approved by EPAC at \$12.8M in May 2016. This estimate also was not a “pre-
5 construction” estimate proper for comparison to final projects costs, but rather represented
6 a refined pre-construction estimate arising from the preliminary engineering study.

7 Based on the completed engineering, the Company was able to conduct a competitive
8 solicitation for an EPC contractor to undertake the project. A specification for this EPC
9 contract was compiled based on the engineering specification and it was put out to
10 competitive bid and awarded in March 2017. The initial value of this contract was
11 marginally within the project budget authorized in May 2016. The EPC contract could not
12 be put out to bid until the preliminary engineering phase was completed and the
13 engineering specifications were made available for the bidders. The cost of the EPC
14 contract could not be ascertained until the competitive solicitation was completed. Thus,
15 the project cost estimate of \$12.8M (which included indirect costs), developed and
16 authorized in May 2016, represented the pre-engineering estimate.

17 During execution of the work, certain cost changes were necessitated to address issues that
18 arose during the project, which could not have been anticipated. Each of these items is
19 described in detail in the supplemental funding request and summarized here as follows:

1 **(1) Purchases of the Abutting Lots**

2 Initially, the Company anticipated that acquisition of the two Carr Street properties would
3 not be necessary because the Company’s plan – prior to the preliminary engineering phase
4 – was that the upgrade could be located entirely within the Webster Substation. However,
5 as the preliminary engineering phase was commenced, it became clear that an adjacent
6 switchyard would be needed. Therefore, it became necessary to acquire these properties
7 to allow for a more optimal layout of the site. As discussed in the Company’s response to
8 STAFF TS 2-051, the decision to purchase the two adjacent properties was made in the
9 2014/15 timeframe because of the proximity to the proposed substation. These two houses
10 were direct abutters to the new substation and there was a concern about the impact of the
11 construction activity and long -term operation of the substation with these parcels situated
12 as residential properties. There was a history of an abutter issue with the existing substation
13 property. These properties were identified and procured in 2015, coincident with the
14 engineering phase and the revelation that, rather than being contained within the existing
15 substation footprint, an adjacent switchyard would be needed. Demolishing the houses and
16 using those properties as a buffer to the adjacent neighborhoods was necessary to protect
17 the operability of the substation for the benefit of all customers.

18 At the request of the Planning Board, PSNH worked with the neighbors along Carr Street
19 and plantings were placed on one of these properties to provide visual mitigation screening
20 for residential properties across the road from the substation. Visual mitigation and
21 screening were required as a condition of site plan approval by the City of Franklin for the

1 Webster Street project frontage (\$0.2M) and is unrelated to the Carr Street properties,
2 which had some comparatively minor screening installed. Overall, these requirements
3 added \$0.3M to the project costs. These costs could not have been foreseen at the time of
4 the conceptual-level estimate or the May 2016 engineering revision because Planning
5 Board approval process could not be commenced until the engineering phase was
6 completed so that specific project designs would be available to inform the Planning Board
7 process.

8 **(2) Civil and Electrical Scope Changes**

9 As discussed in the Company's response to STAFF TS 2-051, interim changes to the scope
10 of civil and electrical work are part of the normal engineering and construction process.
11 The preliminary engineering and original estimate did not "fail" to consider these items,
12 nor were the items missed. There is no "root cause" of any omission. The cost estimates
13 derived for the purpose of the conceptual-level budget authorization and subsequent
14 engineering phase are not intended to serve as the basis for final, pre-construction starting
15 points for the project.

16 In this case, certain details of the civil and electrical scope could not be identified and
17 incorporated into the EPC contract scope until the selected EPC vendor had progressed into
18 early stages of detailed design. These additional scope items increased the project costs by
19 about \$1.5M and were not identified before the May 2016 engineering phase estimate was

1 developed. The additional scope items identified by the EPC as part of the EPC's detailed
2 design phase consisted of:

- 3 a. Two additional 34.5kV breakers were identified as needed to achieve greater
4 sectionalization for faults on the strain bus lines between the two yards.⁷
- 5 b. Fence upgrades at the existing Webster Substation were needed as a result of the
6 site re-engineering and EPC detailed design.⁸
- 7 c. Modifications to existing pull-off structures and foundations were needed due to
8 discrepancies that were discovered between historical as-built drawings (which
9 were relied on during the engineering phase) and actual conditions, which led to
10 the need for structural modifications.
- 11 d. The grounding scope detailed in the EPC bid documents required subsequent
12 revision to incorporate current Eversource standards for station grounding that were
13 not known to the EPC at the time of its bid.⁹
- 14 e. The Human-Machine Interface equipment required at both the Webster and Daniel
15 substations was purposely incorporated into the scope after award of the EPC
16 contract for operational consistency.¹⁰

17 Final construction cost was also impacted by: (1) a seasonal shift in civil construction,
18 which pushed foundation construction into the winter months; (2) a shutdown and outage
19 delay due to a major storm event; (2) and the need, at the request of the ESCC, to use a
20 load bank for test energization.

⁷ This decision was made to prevent a fault on the strain bus from dumping the circuits fed from that side of the 34.5kV bus. Typically, this strain bus is so short it is not a concern. However, the situation at Daniel/Webster was unique.

⁸ Existing fence at Webster was substandard (only 6'), the expansion of fence was determined by detailed design.

⁹ For Daniel, the existing 20x20 grid was viewed as adequate. However, soil resistivity test and grid design found that more grounding was required to meet the Company's step and touch requirements.

¹⁰ This occurred contemporaneously with the start of the Company's standard use of HMI and it was determined to use this approach at both stations instead of the original annunciator practice.

1 **(3) Increase in Distribution Line Work**

2 As discussed in the Company’s response to STAFF TS 2-051, during the site visit in the
3 initiation phase of the project, there were several considerations that were discussed
4 regarding potential line work. The first consideration was the location of the new
5 equipment and how that equipment would be electrically connected. As part of that
6 discussion, the concept of installing rigid bus and bus support structures between the two
7 substations (Webster Substation and Daniel Substation) was raised but would have required
8 a grounded fence and stoned yard surface to enclose the entire rigid bus system. To reduce
9 overall project cost, the Company decided to construct an overhead, open wire “strain bus”
10 between the two stations. After review and in consideration of the need to have the strain
11 bus be as close to the durability and performance of a typical rigid bus as possible,
12 Eversource engineering recommended that the strain bus be constructed using light duty,
13 direct embedded, steel pole structures and spacer cable, which more closely matches the
14 performance characteristics of a conventional rigid bus design within a substation.

15 The local area does not currently have an unusually high outage incident rate. However,
16 this fact did not diminish the need for a robust design for substation bus connections. The
17 mobile substation was intended to be connected for this project to the existing location in
18 Webster substation. As engineering and design of this project progressed, it was
19 recognized that the existing mobile tap location would interfere with the constructability
20 of the proposed project. Development of a new mobile transformer tap location was
21 incorporated into the project scope at that time.

1 Distribution line work cost increased by \$1.1M to accommodate the two strain bus lines,
2 as well as the mobile transformer connection. The strain bus lines were initially planned
3 to be wood pole, open wire construction. However, these lines were upgraded to steel pole
4 design with spacer cable to better approximate the reliability of a rigid bus design. The
5 project scope did not previously include modifications to the mobile transformer
6 connection, but due to final general arrangement of the yards, it was necessary to perform
7 line work and setup to accommodate the mobile transformer.

8 **(4) EPC Scope Changes**

9 As discussed in the Company's response to STAFF TS 2-051, this project, due to its
10 magnitude and complexity combined with internal resource constraints, was executed
11 using an EPC contract strategy. The EPC contract was competitively bid to nine pre-
12 qualified vendors in August 2016 and awarded to Burns & McDonnell in March 2017,
13 while still in the preliminary engineering stage of the project. At the time of the bid, the
14 Company was going by the high-level engineering assessment it had developed for the
15 purpose of conducting the competitive solicitation process for the EPC contract. The EPC
16 contractor would be responsible for the detailed engineering and design phases, as is typical
17 practice. Detailed scope development and engineering was a work activity included in the
18 EPC contract. The outcome of the EPC engineering process was the need for certain
19 verifications of existing condition drawings and other needed engineering studies. The
20 EPC scope changes increased the costs by \$0.6M and could not have been known without

1 an intimate comparison of proposed design details and existing conditions performed by
2 the EPC contractor pursuant to the scope of activities delegated to the EPC contractor.

3 **(5) Estimation of Indirect Costs and AFUDC**

4 As discussed in the Company's response to STAFF TS 2-051, the variance in indirect cost
5 was primarily a function of an increase in overhead rates and to a lesser degree, an increase
6 in direct project cost. The AFUDC rate decreased over the duration of the project. The
7 statement on page 6 of the Supplemental Request regarding the average overhead rate is in
8 error.

9 **Q. Does Mr. Dudley use the correct basis for comparison in his assessment of the cost**
10 **variance for this project, and if not, what is the appropriate point of comparison?**

11 A. No, he does not. Mr. Dudley uses the Company's conceptual-level budget estimate of
12 \$6,959,535 (*excluding* indirect costs), which was developed before the engineering phase
13 and before Burns & McDonnell completed its detailed engineering and procurement
14 assessment under its EPC contract. Mr. Dudley compared this very preliminary estimate
15 to the final actual cost of \$19,138,695 (*including* indirect costs) (Dudley Test. at Bates
16 Page 16). As shown in Attachment CPP-Rebuttal-1, Line 4, Column (b), the Company's
17 August 2018 budget estimate was \$15,352,420 (*excluding* indirect costs), which therefore
18 represent a difference of less than one percent of the final project direct cost (Dudley Test.
19 at Bates Page 000103; Attachment OCA 6-098A (Confidential)).

1 **Q. How do you respond to Mr. Dudley’s assertion that the Company did not provide**
2 **individual work orders or documentation of Project Reviews by the ERM Committee**
3 **or the FP&A Group for the Daniel/Webster Substation project?**

4 A. The Company’s post-2015 Project Authorization Policy (APS-1) provided in Attachment
5 ELM-5, does not require work-order authorizations. Therefore, PSNH did not use work-
6 order project estimate forms. During technical session discussions, Mr. Dudley further
7 clarified that he was looking for a cost summary by work order, which was not provided
8 by the Company. The Company indicated that it tracks costs by work order; however, it
9 was not clear from Mr. Dudley’s request that he was looking for work-order cost
10 summaries, therefore the Company did not provide that documentation although it exists.
11 Mr. Dudley claims that the absence of work order cost information is a basis for
12 disallowance, but his request was not clear that he wanted this documentation. The
13 documentation was, in fact, prepared by the Company and is available for review.

14 On Bates Page 001378 of Attachment ELM-5 (APS-1, Operations Project Authorization
15 Form), it is noted that, if Subsidiary Board approval is required for a project, a review by
16 the ERM Committee and FP&A Group must be documented. On Bates Page 001398 of
17 Attachment ELM-6, it is noted that Subsidiary Board approval is required for projects of
18 \$25 million and above. The project budget for the Daniel/Webster Substation project never
19 reached \$25 million and therefore no documentation needed to be provided as was noted
20 in the Company’s response to STAFF 12-045. Mr. Dudley also claims that the absence of
21 ERM and FP&A approval documentation is a basis for cost disallowance but these
22 approvals were not needed for this project.

1 **C. Viper Replacement Project**

2 **Q. Please provide an overview of the Viper Replacement project.**

3 A. As discussed in Attachment STAFF 12-045 BA and in the Company’s response to TS 2-
4 056, the Company experienced multiple failures of 223 Viper reclosers due to a
5 manufacturing issue and those failures were causing a significant negative impact to
6 reliability. The violent nature of the failures made the units a safety hazard to the
7 Company’s employees and to members of the public (STAFF TS 2-056, at 1; Attachment
8 STAFF 12-045 BA, at 1, 7). Therefore, replacement was an imperative.

9 The initial plan for the Viper Replacement project was to replace all Viper reclosers with
10 rebuilt units at zero material cost and requiring only minimal engineering and
11 commissioning (STAFF TS 2-056, at 1; Attachment STAFF 12-045 BA, at 2). The
12 turnaround time for refurbishing the Viper reclosers was approximately five weeks
13 (STAFF TS 2-056, at 2). Due to the amount of time required to ship the removed Vipers
14 back to the manufacturer for rebuild and the imperative to complete the replacement of
15 these Vipers in a timely manner due to safety and reliability concerns, the decision was
16 made by senior management to supplement the Company’s inventory and utilize
17 Scadamate switches and Nova reclosers going forward (STAFF TS 2-056, at 1-2;
18 Attachment STAFF 12-045 BA, at 2). The Company replaced 165 defective Viper
19 reclosers with refurbished Viper reclosers and 97 defective Viper reclosers were replaced
20 with either a Nova recloser or a Scadamate switch (STAFF TS 2-056, at 2).

1 The Company has sent a total of 262 Viper reclosers back to the manufacturer for
2 refurbishment and all of these have been redeployed in the field (STAFF TS 2-056, at 2)
3 in other projects.

4 **Q. Please summarize Mr. Dudley’s recommendation concerning the Viper Replacement**
5 **Project.**

6 A. Mr. Dudley states that the initial justification for the project was “reasonable and
7 supportable in terms of known failures, customer outages, and the manufacturer’s recall to
8 rebuild and replace the defective Viper reclosers under warranty at little or no cost to
9 Eversource.”¹¹ (Dudley Test. at Bates Page 26).

10 Mr. Dudley claims that the Company materially changed the scope of the project when it
11 decided to supplement its inventory with the Scadamate switches and Nova reclosers and
12 the budget was unnecessarily increased by \$8.9 million (id. at Bates Pages 24-25).
13 However, in making that claim he compared the initial estimate (indirect excluded) to final,
14 total cost (direct and indirect), which is not a valid comparison.

15 Mr. Dudley further asserted that the Company’s Supplemental Request Form did not
16 provide any economic analysis or financial assessment to support the decision to switch
17 out and replace Viper reclosers with the new Nova units, beyond the fact that the Company

¹¹ In response to Eversource-Staff 3-042, Mr. Dudley states that the original Project Authorization Form for the Viper Replacement project was not provided by the Company as requested in STAFF 12-045. However, the original PAF was provided by the Company, in the last few pages of the Supplemental Request Form, in response to STAFF 12-045, Attachment STAFF 12-045 BA (Attachment STAFF 12-045 BA, at 4-9; Dudley at Bates Pages 000142-000147).

1 experienced multiple failures of the Vipers and the turnaround for refurbishment was five
2 weeks (id. at Bates Page 25). Mr. Dudley also characterizes the Company’s decision as
3 uneconomic and concludes that “the five-week turnaround time was not unreasonable . . .
4 and that individual Viper units could have been temporarily bypassed while waiting for the
5 units to be rebuilt and returned from the manufacturer” (id. at Bates Pages 26). Mr. Dudley
6 asserts that the Company did not provide documentation of Project Reviews by the ERM
7 Committee, the FP&A Group, or the Project Authorization Committee (id. at 25).

8 Mr. Dudley recommends that the Commission disallow all costs over the original estimate
9 of \$895,0000, resulting in a total disallowance of \$5.1 million (id. at 26).

10 **Q. How do you respond to Mr. Dudley’s conclusion that the five-week turnaround time**
11 **for refurbishment was not unreasonable, and the Viper reclosers could have been**
12 **temporarily bypassed?**

13 A. In his response to Eversource-Staff 3-041, Mr. Dudley acknowledges that he did not
14 consider the risks associated with installing the refurbished Viper reclosers immediately
15 versus phasing the devices onto the system over time. As the Company explained in its
16 response to TS 2-056, the failing Viper reclosers were causing reliability issues and posed
17 a safety hazard to the Company’s employees and members of the public. The Company
18 does not consider it prudent utility practice to subject its customers to repeated risk of
19 recloser failures or to expose its customers or employees to a known safety risk. Therefore,
20 the Company took the reasonable and appropriate course of replacing Viper reclosers with
21 refurbished Vipers, Nova reclosers, and Scadamate switches, depending upon the
22 availability of devices and the application to address an urgent safety and reliability issue

1 (STAFF TS 2-056, at 2). In other words, the Company addressed this urgent reliability
2 issue by balancing and managing the competing variables of the five-week turnaround time
3 for refurbishment; the immediate need to replace the Viper units for safety and reliability
4 reasons (versus the risk of delay); and the long-term plan to continue with pole top
5 distribution automation on the Company's distribution system. This was an entirely
6 appropriate thought process consistent with good utility practice.

7 Mr. Dudley also summarily asserts in his testimony that the Viper recloser units could have
8 been temporarily bypassed but he provides no detail or engineering analysis for this
9 conclusion.

10 **Q. How do you respond to Mr. Dudley's conclusion that the Company's decision to**
11 **supplement its inventory with Scadamate switches and Nova reclosers was**
12 **uneconomic?**

13 A. Mr. Dudley's conclusion is incorrect and not supported by the evidence. The Company
14 took several steps that plainly demonstrate its appropriate management of the Viper
15 Replacement project. First, consistent with the Company's applicable Project
16 Authorization Policy, the Company prepared a Supplemental Request Form with a revised
17 cost justification once it became likely that the project cost was expected to increase from
18 the original authorized dollar amount (Testimony of Erica Menard at Bates Page 000932;
19 Att. ELM-5 at Bates Page 001369; Attachment STAFF 12-045 BA).

20 Second, as explained in the Company's response to STAFF TS 2-056, all 262 of the Viper
21 reclosers that were sent in for refurbishment have been re-deployed in the field to serve

1 customers (STAFF TS 2-059, at 2). Also, the Company made the justified engineering
2 decision to begin using the more reliable Scadamate switches and Nova reclosers on a
3 going forward basis since the Company planned to continue with pole distribution
4 automation and the Viper reclosers had proven unreliable (STAFF TS 2-059, at 1-2).

5 Third, the Company negotiated an agreement with the manufacturer to pay Eversource
6 \$3,300 for labor costs per unit to install and remove 291 Viper units for a total of \$960,300.
7 This amount was partially offset by materials (reclosers) supplied by the manufacturer at
8 no cost totaling \$779,179 (*id.*). As Mr. Dudley acknowledges in his response to
9 Eversource-Staff 3-042, his analysis does not take this negotiated arrangement into
10 account. Thus, contrary to Mr. Dudley's assertions, the Company took on reasonable steps
11 to manage the costs of the project under the circumstances and there has been no economic
12 waste because all the refurbished Viper units have been redeployed for the benefit of
13 customers and installed at other locations at zero material cost.

14 **Q. Does Mr. Dudley use the correct basis for comparison in his assessment of the cost**
15 **variance for this project?**

16 A. No. Mr. Dudley uses a conceptual estimate of \$895,000 (*excluding* indirect costs) as a
17 basis for comparison to the actual cost of \$6,003,793 (*including* indirect costs) (Dudley
18 Test. at Bates Page 23). The conceptual estimate for this project of \$950,000 (\$895,000 of
19 direct cost, plus \$55,000 of indirect cost), was based on the initial plan for the Viper
20 Replacement project, which was to replace all Viper reclosers with rebuilt units at zero
21 material cost and requiring only minimal engineering and commissioning. However, as

1 described above, the Company refined this initial conceptual estimate based on its
2 assessment of the competing variables of the five-week turnaround time for refurbishment;
3 the immediate need to replace the Viper units for safety and reliability reasons (versus the
4 risk of delay); and the long-term plan to continue with pole top distribution automation on
5 the Company's distribution system. As shown in Attachment CPP-Rebuttal-1, Line 13,
6 Column (b), the Company's refined pre-construction estimate for the project was
7 \$5,997,000 (*excluding* indirect costs). The final project cost was \$4,263,832 (excluding
8 indirect costs), which is under-budget as compared to the pre-construction estimate
9 (Dudley Test. at Bates Page 000140-000141; Attachment STAFF 12-045 BA at 2-3).

10 The main reason that this project was completed under budget was because the PAF was
11 developed without a significant sample of similar work and therefore the conceptual level
12 estimate was higher than actual. Specifically:

- 13 • A Viper replacement with a refurbished unit was estimated at \$13,000 each (total
14 \$). The actual average installation was \$7,065, a difference of \$5,935. With 124
15 units replaced, this amounts to \$736,000 in savings versus the estimate.
- 16 • A viper replacement with a Nova recloser or Scadamate was estimated at \$75,000
17 (total \$). The actual average was \$61,288, a difference of \$11,727. With 80 units
18 replaced, this amounts to \$938,000.
- 19 • The remaining 12 Vipers were replaced under other budget projects, a savings of
20 900,000 versus the estimate.
- 21 • Indirects were overestimated on the PAF by approximately \$1,100,000.

1 **Q. How do you respond to Mr. Dudley’s assertion that the Company did not provide**
2 **documentation of Project Reviews by the ERM Committee or the FP&A Group for**
3 **the Viper Replacement project?**

4 A. The applicable Project Authorization Policy was APS-1. On Bates Page 001378 of
5 Attachment ELM-5 (APS-1, Operations Project Authorization Form), it notes that if
6 Subsidiary Board approval is required for a project, a review by the ERM and FP&A must
7 be documented. On Bates Page 001398 of Attachment ELM-6, it indicates that Subsidiary
8 Board approval is required for projects of \$25 million and above. The project budget for
9 the Viper Replacement project never reached \$25 million and therefore these project
10 reviews were not required by the Company’s applicable Project Authorization Policy and
11 therefore no documentation needed to be provided as was noted in the Company’s response
12 to STAFF 12-045. Mr. Dudley is using the alleged lack of ERM and FP&A approval as
13 one of the bases for disallowance of projects costs. However, this documentation is not
14 required per the Company’s capital authorization procedures.

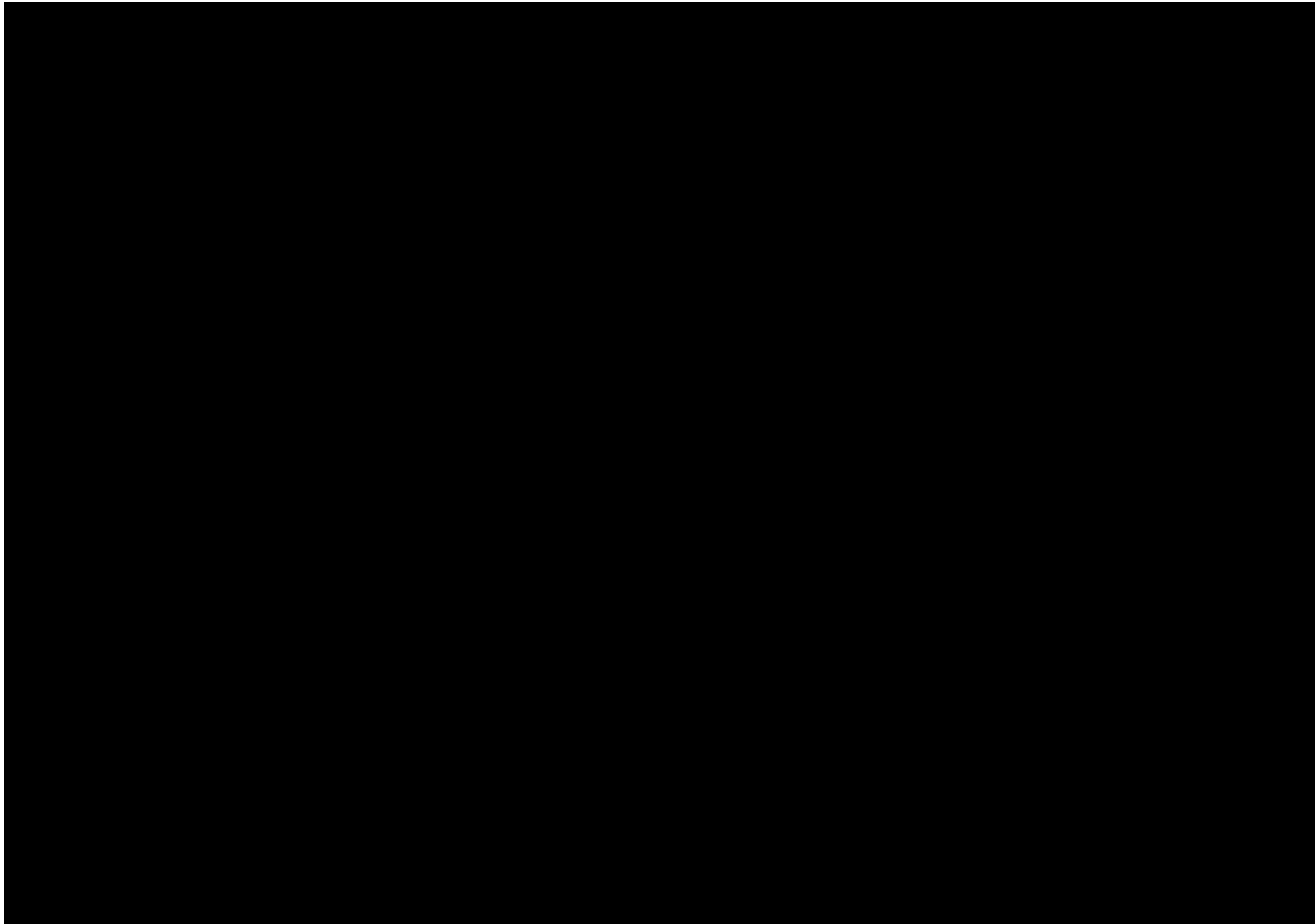
15 **D. Garvins Substation Rebuild**

16 **Q. Please provide an overview of the Garvins Substation project.**

17 A. The Garvins Substation project consisted of replacing the non-standard 24 VDC control
18 system, which had become obsolete therefore making it difficult to find replacement parts
19 (OCA 6-097 (Confidential)). In addition, the need to add a second 115 kV Bus Differential
20 Scheme at Garvins Substation required additional upgrades that were completed within the
21 project scope (id.). Specifically, the work at Garvins Substation involved removing the 24
22 VDC controls and installing conventional controls and metering for the 34.5 kV breakers

1 and lines; installing two circuit switchers and associated motor operated switches;
2 installing two circuit switcher failure protection systems; installing three external free-
3 standing current transformers on the high side of each transformer; relocating the 125 VDC
4 batteries to a pre-fabricated building adjacent to the existing control house in order to install
5 the new nine cabinets in the location of the existing battery; and adding three 115 kV
6 CCVTs to each bus (id.).

7 **Q. Please summarize Mr. Dudley's recommendation regarding the Garvins Substation**
8 **project.**



1 **Q. How do you respond to Mr. Dudley’s assertion that omissions in the Company’s initial**
2 **scoping of the project could have been foreseen and the inability to do so indicates**
3 **imprudence on the part of the Company?**

4 A. As discussed throughout this joint rebuttal testimony, Mr. Dudley’s methodology is flawed
5 because he chooses the conceptual-level budget estimate (*excluding* indirect costs) as the
6 point in time by which all subsequent decisions, circumstances, and costs are measured,
7 which is not the correct starting point.

8 Prior to the initial scoping phase of the project, Eversource engineers and engineering
9 contractors conducted a site visit to develop the scope of work. (STAFF TS 2-060, at 2).
10 The work completed to support the preliminary estimating stage for the project did not
11 include detailed engineering plans, nor would this make sense because project budgets are
12 authorized before money is spent to develop detailed engineering plans that would be
13 rendered useless if initial budget authorization did not occur. Attachment CPP-Rebuttal-
14 1, Lines 21-26.

15 **Q. What complicating factors necessitated refinements to the budget and what cost**
16 **control measures did the Company utilize during this project?**

17 A. The cutover sequence of Garvins Substation project was complex due to the operating
18 changes as each transformer protection changed from an air-break switch to a circuit switch
19 (STAFF TS 2-060, at 2). These circumstances impacted the trip and close of each
20 transmission line and the remaining transformer protection schemes (*id.*). Further
21 complications arose from the sequence and availability of new primary equipment being
22 installed (*id.*).

1 The Project Manager worked with the Project Cost Analyst throughout this project and cost
2 control measures included weekly and monthly reviews of the project cost; change order
3 review and negotiations with contractors; and, the presentation of project financials at the
4 monthly Distribution Capital Review and Major Project Group meetings (id.). The Project
5 Manager and Cost Analyst had regular discussions with Eversource Management to review
6 the changes as the design was in progress (id.). Due to the complexities of this brownfield
7 site, the engineering effort uncovered unknown wiring conditions while developing the
8 final scope for the project, which resulted in refinements to the final budget (id.).
9 Eversource management agreed that the additional scope was justified and the project
10 could move forward with the supplemental cost adjustments (id.).

11 **Q. Does Mr. Dudley use the correct basis for comparison in his assessment of the cost**
12 **variance for this project, and if not, what is the appropriate point of comparison?**

13 A. No. Mr. Dudley uses the Company's 2016 conceptual-level estimate of \$3,449,000
14 (*excluding* indirect costs) as a basis for comparison to the actual cost of \$5,479,461
15 (*including* indirect costs) (Dudley Test. at Bates Page 26). As shown in Attachment CPP-
16 Rebuttal-1, Line 22, Column (b), the Company's refined budget estimate for the project
17 was \$4,368,444 (*excluding* indirect costs), representing a difference of less than two
18 percent of the final project cost of \$4,295,763 (**excluding** indirect costs) (Dudley Test. at
19 Bates Page 000167; Attachment OCA 6-097 (Confidential)). This detailed
20 design/engineering estimate is the proper point of comparison to the actual cost for the
21 Garvins Substation project.

1 **Q. How do you respond to Mr. Dudley’s assertion that the Company did not provide**
2 **individual work orders or documentation of Project Reviews by the ERM Committee**
3 **or the FP&A Group for the Garvins Substation project?**

4 A. The Company’s post-2015 Project Authorization Policy (APS-1) (provided in Attachment
5 ELM-5), does not require work-order authorizations, therefore Eversource does not use
6 work-order project estimate forms. However, the Company does track costs by work order.
7 It was not clear from Mr. Dudley’s request that he was looking for work-order cost
8 summaries, but those summaries exist and would be provided upon request. Mr. Dudley
9 is relying on the alleged absence of work-order cost summaries as a one of the bases for
10 the disallowance of costs; however, the documentation exists.

11 On Bates Page 001378 of Attachment ELM-5 (APS-1, Operations Project Authorization
12 Form), it is noted that, if Subsidiary Board approval is required for a project, a review by
13 the ERM and FP&A must be documented. On Bates Page 001398 of Attachment ELM-6,
14 it indicates that Subsidiary Board approval is required for projects of \$25 million and
15 above. The project budget for the Garvins Substation project never reached \$25 million
16 and therefore no documentation needed to be provided as was noted in the Company’s
17 response to STAFF 12-045. Mr. Dudley is relying on the alleged lack of documentation
18 for the ERM and FP&A approval as one of the bases for cost disallowance, but the
19 documentation is not generated under the Company’s policy.

20 **E. Berlin Eastside 34.5 kV Line Breaker**

21 **Q. Please provide an overview of the Berlin Line Breaker project.**

22 A. As discussed in the Company’s response to TS 2-059 and in Attachment STAFF 12-045

1 AD, the Berlin Line Breaker project was initiated in 2014 as a single 34.5 kV breaker
2 addition to support installation of a new substation at Community Street and improve area
3 reliability (STAFF 12-045, Attachment STAFF 12-045 AD, at 2, 5-8, 14-17; TS 2-059).

4 The scope of the Berlin Line Breaker project was expanded in 2016 to encompass three
5 components:

- 6 1. An added 34.5 kV line breaker to feed the 3525X line. This was done to improve
7 the area reliability by feeding the 3525X line on its own breaker instead of having
8 both the 3525X Line (3,233 customers) and 3521X line (4,368 customers) fed from
9 a single breaker;
- 10 2. An added grounding bank. The 34.5-22kV 62-year old transformer TB254 and the
11 1948 vintage OCB will not be required to feed Gorham Paper & Tissue load when
12 their new 115-22kV substation is completed in early 2016. Prior to de-energizing,
13 removing TB254 a new ground bank is required as it is the backup ground source
14 for the substation when the main transformer TB 83 is taken out of service or trips
15 out. (NOTE: The second 115-34.5kV transformer (TB115) feeding Berlin S/S is
16 connected wye-delta therefore it does not provide a ground source). Without a
17 ground source the voltage would fluctuate outside NHPUC limits at 34.5kV for all
18 customers fed only from TB115 so installation of a ground bank on 34 .5kV Bus 1
19 is included in this project; and
- 20 3. Removal of the obsolete, 55-year old 34.5-4kV transformer (TR158) and
21 corresponding 59-year old switchgear, which was de-energized when Community
22 Street Substation was rebuilt and energized to feed the 4kV Berlin load.

23 (Attachment STAFF 12-045 AD, at 5-6).

24 The Company provided supplemental funding for this project to cover increased
25 engineering costs, line modifications and construction and environmental remediation and
26 testing (STAFF TS 2-059, at 1; Attachment STAFF 12-045 AD, at 2).

1 **Q. Please summarize Mr. Dudley's recommendation regarding the Berlin Line Breaker**
2 **project.**

3 A. Mr. Dudley states that the initial justification for the project was reasonable in terms of
4 known obsolescence involving the asset condition of some components of the substation
5 and the need of related upgrades (Dudley Test. at Bates Page 31).

6 However, Mr. Dudley asserts that the subsequent project cost escalation of \$2.3 million,
7 due to the need to contract with an outside engineer and to account for other cost
8 components that were missed in the initial planning of the project, indicates a flawed
9 scoping and planning process (Dudley Test. at 30-31). Mr. Dudley asserts that the
10 Company did not provide work orders or documentation of Project Reviews by the ERM
11 Committee, the FP&A Group, or the Project Authorization Committee (Dudley at 30-31).
12 Mr. Dudley recommends that the Commission disallow all costs over the original
13 conceptual estimate of \$1.3 million, resulting in a total disallowance of \$2.6 million
14 (Dudley Test. at 32).

15 **Q. How do you respond to Mr. Dudley's assertion that the cost escalations that occurred**
16 **after the initial project estimate indicate imprudence and therefore the cost variance**
17 **between the initial estimate and the final cost should be disallowed?**

18 A. Mr. Dudley's analysis and recommendation attempt to, using the benefit of hindsight,
19 replace the business decisions of the Company with his own. Mr. Dudley's application of
20 the prudence inquiry is inconsistent with the Commission's standard because he relies on
21 the Company's initial conceptual-level budget estimate (excluding indirect costs) and then
22 disregards all the steps the Company took to make an informed decision, refine its budget

1 estimate based on more detailed design and engineering, and second-guesses management
2 decisions based on later occurrences.

3 As the Company explained in STAFF TS 2-059, the Company conducted a site visit prior
4 to the preparation of the initial scope and estimate and subsequent site visits during the
5 design process and refinement of the scope of work (STAFF TS 2-059, at 2). Mr. Dudley
6 acknowledges that the initial justification for the project was reasonable (Dudley Test. at
7 31). After the initial, design phase budget was prepared, the Company discovered that
8 environmental remediation and line modifications at the project site were necessary and
9 revised the budget accordingly. Mr. Dudley concedes that the discovery of these issues,
10 after the initial budget was prepared, **did not** invalidate the need for the project
11 (Eversource-Staff 3-035).

12 Nevertheless, Mr. Dudley fixates upon the Company's conceptual-level budget estimate
13 and does not allow for any modification to that amount based on additional due diligence,
14 detailed design, and engineering that is used to refine the assumptions in initial conceptual
15 estimate. The timing of the cost incurrence for the detailed engineering (*i.e.*, during the
16 detailed design phase instead of in the conceptual design phase) did not alter the
17 determination that this project was needed from an operations perspective. Moreover, the
18 Company could not have reasonably anticipated the soil contamination and line
19 modification issues based on an initial site visit. Based on subsequent due diligence and
20 refinements to the project scope and budget, the Company appropriately incorporated the

1 environmental remediation and line modification elements into the Berlin Line Breaker
2 project.

3 Over the course of the Berlin Line Breaker project, the Company conducted monthly
4 reviews at the Distribution Capital Project Review meeting and refinements to the project
5 budget were presented and reviewed by management at this meeting.

6 **Q. Does Mr. Dudley use the correct basis for comparison in his assessment of the cost**
7 **variance for this project, and if not, what is the appropriate point of comparison?**

8 A. No. As with all other projects cited, Mr. Dudley uses the Company's 2016 pre-engineering
9 estimate of \$1,070,000 (*excluding* indirect costs)¹² as a basis for comparison to the actual
10 cost of \$3,709,636 (*including* indirect costs) (Dudley Test. at Bates Page 29). As shown
11 in Attachment CPP-Rebuttal-1, Line 31, Column (b), the Company's refined budget
12 estimate for the project was \$2,838,000, which represent a difference of about eight percent
13 of the final project cost (Dudley Test. at Bates Page 198), which is within the tolerance of
14 Eversource's APS-1 policy. This detailed design/engineering estimate is the proper point
15 of comparison for the final cost of the Berlin Line Breaker project.

16 **Q. How do you respond to Mr. Dudley's argument that the use of an outside engineering**
17 **firm somehow indicates imprudence of the part of the Company?**

18 A. Mr. Dudley takes issue with the fact that the Company utilized an outside engineer on the
19 Berlin Line Breaker project (Dudley Test. at Bates Page 30). Mr. Dudley's testimony

¹² In response to Eversource 3-067, Mr. Dudley acknowledges that the pre-engineering estimate of \$1,070,000 only includes direct costs.

1 appears to disregard, however, the fact that the Company does not engineer all of its
2 projects with internal resources, nor is it required to do so. The Company properly uses
3 outside engineering resources when internal resources are strained or when outside
4 expertise may be more suitable for the project at hand, as it did in this case.

5 **Q. How do you respond to Mr. Dudley's assertion that the Company did not provide**
6 **individual work orders or documentation of Project Reviews by the ERM Committee**
7 **or the FP&A Group for the Berlin Line Breaker project?**

8 A. The Company's post-2015 Project Authorization Policy (APS-1) provided in Attachment
9 ELM-5), does not require work order authorizations, therefore Eversource does not use
10 work-order project estimate forms. The Company does, in fact, track costs by work order.
11 However, it was not clear from Mr. Dudley's request that he was looking for work-order
12 cost summaries. Mr. Dudley relies on the alleged absence of work-order cost summary
13 information as a one of the bases for cost disallowance, but this documentation exists.

14 On Bates Page 001378 of Attachment ELM-5 (APS-1, Operations Project Authorization
15 Form), it is noted that, if Subsidiary Board approval is required for a project, a review by
16 the ERM and FP&A must be documented. On Bates Page 001398 of Attachment ELM-6,
17 it indicates that Subsidiary Board approval is required for projects of \$25 million and
18 above. The project budget for the Berlin Line Breaker project never reached \$25 million
19 and therefore no documentation needed to be provided as was noted in the Company's
20 response to STAFF 12-045. Mr. Dudley relies on the absence of ERM and FP&A approval
21 as one of the bases for cost disallowance; however, these approvals are not required in this
22 case.

1 **V. CONCLUSION**

2 **Q. Please summarize the Company's position with respect to Mr. Dudley's**
3 **recommendations?**

4 A. Mr. Dudley recommends that the Commission disallow cost variances for 19 projects,
5 primarily based on the alleged "cost variance" between conceptual-level budget estimates
6 (*excluding* indirect costs) and actual project costs (*including* indirect project costs),
7 resulting in a total recommended disallowance of approximately \$63 million. Mr.
8 Dudley's recommendation is based on his assertion that the alleged "cost variances"
9 without any other indication of "inefficiency, improvidence, economic waste, abuse of
10 discretion or action inimical to the public interest." This is not sufficient to deny recovery
11 of project costs that are associated with needed projects; that are documented and follow
12 the capital authorization process; and have no indication of mismanagement by the
13 Company other than a deliberate, sequential process to obtain knowledge, roll that
14 knowledge into the cost estimate and proceed with the project under careful supervision.
15 Therefore, for the reasons discussed herein, there is no reasonable basis for the
16 recommended cost disallowances.

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

18 A. Yes it does.