

STATE OF NEW HAMPSHIRE  
before the  
PUBLIC UTILITIES COMMISSION

Eversource Energy  
2022 Transmission Cost Adjustment Mechanism

Docket No. DE 22-034

**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE  
ENERGY'S PETITION FOR APPROVAL OF CHANGE IN TRANSMISSION COST  
ADJUSTMENT MECHANISM RATE**

Pursuant to N.H. Code Admin. Rule Puc 202.01 and Puc 203.06, Public Service Company of New Hampshire d/b/a Eversource Energy ("Eversource" or "the Company") petitions the Commission to establish a revised Transmission Cost Adjustment Mechanism ("TCAM") rate for effect on August 1, 2022. In support of this Petition, Eversource states as follows:

1. Consistent with the settlement agreement in Docket No. DE 06-028 approved by the Commission in Order 24,750 (May 25, 2007), which established the TCAM, Eversource is seeking a change in the existing TCAM rate. Eversource is requesting approval of a forecasted retail transmission rate to be effective August 1, 2022, for a twelve-month billing period, as well as approval of the reconciliation of transmission costs and recoveries for the period of January 2021 through July 2022. The overall average rate for the TCAM is proposed to be 2.179 cents per kWh.

2. Accompanying this petition are the testimony and attachments of Marisa B. Paruta and James E. Mathews explaining the TCAM and its calculation, including how the Company's recent lead/lag analysis is incorporated. Additionally, the Company includes the testimony and attachments of Edward A. Davis to describe the calculation of the TCAM rates

applied to each rate class, and the testimony and attachment of David J. Burnham to describe the transmission planning process at ISO-NE along with the projects included in the LNS rates that are part of the TCAM rate.

WHEREFORE, Eversource's respectfully requests that the Commission:

- A. Review and approve Eversource's proposed TCAM rate change; and
- B. Grant such further relief as is just and equitable.

Respectfully submitted,  
Public Service Company of New Hampshire d/b/a Eversource Energy  
By Its Attorney



Dated: June 20, 2022

By:  
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### **CERTIFICATE OF SERVICE**

I hereby certify that, on the date written below, I caused the attached to be served pursuant to N.H. Code Admin. Rule Puc 203.11.

Dated: June 20, 2022



Jessica A. Chiavara

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**STATE OF NEW HAMPSHIRE**  
**BEFORE THE NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**  
**DIRECT JOINT TESTIMONY OF MARISA B. PARUTA AND JAMES E. MATHEWS**  
**PETITION OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE**  
**d/b/a EVERSOURCE ENERGY**  
**REQUEST FOR TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM)**  
**RATE CHANGE**

**June 20, 2022**

**Docket No. DE 22-034**

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1 **Q. Please state your names, business addresses and your present positions.**

2 A. My name is Marisa B. Paruta. My business address is 107 Selden Street, Berlin,  
3 CT. I am employed by Eversource Energy Service Company as the Director of  
4 New Hampshire and Connecticut Revenue Requirements and in that position, I  
5 provide service to Public Service Company of New Hampshire d/b/a Eversource  
6 Energy (“Eversource” or the “Company”).

7 My name is James E. Mathews. My business address is 107 Selden Street, Berlin,  
8 CT. I am employed by Eversource Energy Service Company as the Manager of  
9 Rates and Revenue Requirements, Transmission and in that position, I provide  
10 service to the Eversource Energy affiliated companies in Connecticut,  
11 Massachusetts and New Hampshire, including the Company.

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

2   A.     Ms. Paruta: Yes, I have.

3   A.     Mr. Mathews: Yes, I have.

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

5   A.     Ms. Paruta: I am currently responsible for the coordination and implementation of  
6           revenue requirements calculations for Eversource, as well as the filings associated  
7           with Eversource's Energy Service ("ES") rate, Stranded Cost Recovery Charge  
8           ("SCRC"), Transmission Cost Adjustment Mechanism ("TCAM"), Regulatory  
9           Reconciliation Adjustment mechanism ("RRA"), and Distribution Rates.

10        Mr. Mathews: I am currently responsible for coordination and implementation of  
11        wholesale transmission rate and revenue requirement calculations for Eversource. I  
12        also have responsibility related to transmission rate filings before Eversource's  
13        affiliated companies' three state utility commissions, as well as the Federal Energy  
14        Regulatory Commission ("FERC").

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

16   A.     Ms. Paruta: My testimony supports Eversource's TCAM filing for rates effective  
17           August 1, 2022. The testimony and supporting attachments present the  
18           reconciliation with actual data through May 31, 2022 and forecast data for the

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1 period June 1, 2022 to July 31, 2023 for transmission costs as well as the proposed  
2 TCAM rate to be effective beginning August 1, 2022.

3 Mr. Mathews: My testimony is to support and describe the year-to-year change in  
4 both wholesale regional network service (RNS) and local network service (LNS)  
5 transmission expenses.

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

7 A. Eversource is requesting approval of a forecasted average retail transmission rate  
8 to be effective August 1, 2022, for a twelve-month billing period. In addition,  
9 approval of the over- or under-recoveries resulting from the reconciliation of actual  
10 transmission costs and revenues as compared to forecasted transmission costs and  
11 revenues used in the previous rate filing is being requested. These requests are in  
12 accordance with the Commission's approval of the settlement in Docket No. DE  
13 06-028 (Distribution Rate Case), which included a provision for a transmission  
14 cost adjustment mechanism.

15 **Q. Will anyone else be providing testimony in support of this filing?**

16 A. Yes. Edward A. Davis and David J. Burnham are each filing testimony in support  
17 of the proposed retail transmission rates. Mr. Davis will detail the rates applicable  
18 to each individual rate class. Mr. Burnham will be providing a description of

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1 projects included in LNS rates as well as describing the planning process at ISO-  
2 NE.

3 **Q. Describe the types of costs included in this TCAM filing.**

4 A. There are two different groups of recoverable costs within this TCAM filing. The  
5 first group of recoverable costs consists of four cost categories of “wholesale  
6 transmission” costs. The second group consists of two cost categories of “other  
7 transmission” costs.

8 The “wholesale transmission” costs are as follows:

- 9 1. Regional Network Service (RNS) costs
- 10 2. Local Network Service (LNS) costs
- 11 3. Reliability costs
- 12 4. Scheduling and Dispatch (S&D) costs.

13 All of the recoverable transmission costs are regulated by the FERC. These costs  
14 are discussed below in more detail.

- 15 1. RNS costs support the regional transmission infrastructure throughout New  
16 England. RNS costs are charged to Eversource by ISO-NE based upon  
17 tariffs approved by the FERC. RNS costs are billed to all entities in the  
18 region that have RNS load responsibility, such as Eversource, based on  
19 their monthly peak load.

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- 1           2. LNS costs encompass Eversource's local transmission costs that are not  
2           included in the FERC-jurisdictional RNS tariff. These billings are also  
3           governed by FERC-approved tariffs and through December 31, 2021 are  
4           based on costs allocated to Eversource based on load ratio share<sup>1</sup>.  
5           Eversource's load ratio share was calculated using a rolling twelve-month  
6           coincident peak (12 CP). Effective January 1, 2022, wholesale LNS costs  
7           are allocated to Eversource's wholesale LNS customers on a state-by-state  
8           basis, based upon a unit rate multiplied by the customer's load at the time  
9           of the local network peak.
- 10          3. Reliability costs include costs such as Black Start and VAR support that are  
11          related to electric reliability. These reliability costs are billed to all entities  
12          in the region that have RNS load responsibility, such as Eversource, based  
13          on their monthly peak load.
- 14          4. S&D costs are associated with services provided by ISO-NE related to  
15          scheduling, system control and dispatch services. These costs are billed by  
16          ISO-NE to all entities in the region that have RNS load responsibility, such  
17          as Eversource, based on their monthly peak load, in accordance with the  
18          applicable FERC tariff.

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<sup>1</sup> The wholesale Transmission rate transparency settlement, filed at FERC on June 15, 2020, was approved by FERC on December 28, 2020 in Docket No. ER20-2054-000. Per the terms of the Settlement, effective January 1, 2022, Local Service revenue requirements are billed based on state-by-state unit rates multiplied by the customer's monthly load.

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1 The “other transmission” costs and credits or revenues are as follows:

2 5. Hydro-Québec (HQ) Phase I/II support costs and related revenues,

3 6. TCAM working capital allowance return, and

4 7. HQ Interconnection Capacity Credits.

5 Other transmission costs and revenues (numbers 5 and 6) were previously  
6 recovered through Eversource’s distribution rates, but were transferred in total or  
7 in part to the TCAM for recovery, effective July 1, 2010, as part of a negotiated  
8 “Settlement Agreement on Permanent Distribution Service Rates” (“Settlement  
9 Agreement”) between Eversource, the Commission Staff, and the Office of  
10 Consumer Advocate (OCA) in Docket No. DE 09-035 that was approved in Order  
11 No. 25,123. These costs and revenues are discussed below in more detail.

12 5. HQ Phase I/II support costs are costs associated with FERC-approved  
13 contractual agreements between Eversource and other New England  
14 utilities to provide support for, and receive rights related to, transmission  
15 and terminal facilities that are used to import electricity from HQ in  
16 Canada. Under the amended, extended and restated agreements<sup>2</sup>,

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<sup>2</sup> On December 18, 2020 in Docket No. ER21-712-000, the Asset Owners and the IRH Management Committee (“Filing Parties”) submitted to FERC for approval an Offer of Settlement (“Settlement”) that amended and restated the four Support Agreements and the Use Agreement as part of a comprehensive package that will provide for ongoing financial support of, and related rights and obligations with respect to, the Phase I/II HVDC-TF. The Settlement reflected the exercise by certain IRH of rights under the existing Support Agreements to extend the term of those Support Agreements another twenty years until October 31,



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1 Eversource is charged its proportionate share of O&M and capital costs for  
2 a twenty-year term that ends on October 31, 2040.

3 Prior to July 1, 2010, Eversource's share of any revenue associated with HQ Phase  
4 I/II was returned to customers through the ES rate. Effective July 1, 2010,  
5 consistent with the requirements of NHPUC Order No. 25,122, in the 2010 TCAM  
6 docket, Docket No. DE 10-158, Eversource began returning its share of any HQ  
7 Phase I/II revenues to customers as a revenue credit in the TCAM. That credit  
8 continues in the TCAM today<sup>3</sup>.

9 6. When the TCAM was initially approved in Docket No. DE 06-028, there  
10 was no provision for a working capital allowance in the TCAM. The  
11 TCAM working capital allowance continued to be included with the  
12 distribution working capital allowance. As part of the Settlement

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2040. Further, because the Use Agreement by its own terms will remain in effect through expiration of the term of the last Support Agreement, the term of Use Agreement was also extended to October 31, 2040. The Filing Parties asserted that the Phase I/II HVDC-TF are vitally important to both the New England and Québec regions and provide a variety of benefits to consumers in New England. In an order issued on May 20, 2021, FERC accepted the Settlement, finding that it appears to be fair and reasonable and in the public interest. 175 FERC ¶ 61,140 (2020). Materials pertaining to the extension were shared with the Commission, Staff, and OCA in January 2021, and notice of FERC's acceptance of the Settlement was provided to the Commission, Staff, and OCA on May 24, 2021.

<sup>3</sup> Public Service Company of New Hampshire ("PSNH") and its affiliates, The Connecticut Light and Power Company ("CL&P") and NSTAR Electric Company ("NSTAR" and together with PSNH and CL&P, "Eversource"), have issued Requests for Proposals for the Reassignment of their Use Rights on the Phase I/II HVDC-TF. Proposals were requested for 100% of the Eversource Use Rights or for tranches of their combined Use Rights in bid blocks of 25%, and a fixed dollar proposal was requested. Based on the recent proposals received, Eversource signed agreements to reassign all of its Use Rights to H.Q. Energy Services (U.S.) Inc. for a one-year term commencing June 1, 2022. All proceeds from the reassignment of Eversource's Use Rights will be credited back on a pro rata basis (by IRH Participant Share percentage) to the retail customers of PSNH, CL&P and NSTAR. The forecast proceeds as a result of the most recent RFP for the period June 2022 to July 2023 are shown in Attachment MBP-1, pages 2 and 3, lines 8 and 10, respectively.

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1 Agreement, the distribution revenue requirement calculation excluded  
2 working capital on transmission costs. Therefore, the TCAM includes a  
3 working capital allowance. An updated lead/lag analysis has been  
4 completed for rates effective August 1, 2022 based on the lead/lag study  
5 discussed later in this testimony.

6 7. HQ Interconnection Capacity Credits were historically included in the  
7 Capacity Expense/Credit portion of the ES rate. With the transition from  
8 the Eversource-owned generation energy service rates to the new market  
9 solicitation rates effective April 1, 2018, it was appropriate to start  
10 including these credits in the TCAM, as that is where HQ Phase I/II  
11 Support Costs and Revenue Credits are included.

12 **Q. Please describe any one-time adjustments to the recoverable TCAM expenses**  
13 **noted above and presented in this filing.**

14 A. Attachment MBP-1, Page 4, Line 21, reflects that Eversource halted LNS billings  
15 to PSNH during the months of October through December in order to mitigate a  
16 growing wholesale LNS over-recovery resulting primarily from higher RNS  
17 revenue credits due to weather-related load increases. In addition, Line 23 also  
18 reflects a one-time refund/true up amount of approximately (\$7.9) million recorded  
19 in November 2021 to further mitigate the wholesale LNS over-recovery.  
20

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1   **Q.    Please describe the overall mechanics of the TCAM as they are presented in**  
2       **this filing.**

3    A.    The TCAM is a mechanism that allows Eversource to fully recover defined FERC  
4       and/or Commission-approved transmission costs. The proposed TCAM rate is  
5       based on reconciliations of historic transmission costs and forecasted future  
6       transmission costs using the latest known wholesale transmission rates calculated  
7       under the FERC-approved tariffs.

8       There are two premises that form the basis of the TCAM. First, the TCAM sets  
9       transmission rates for a defined future billing period based on transmission cost  
10      estimates using current budget and forecast data supported by the latest known  
11      wholesale transmission rates calculated under the FERC-approved tariffs. This  
12      future billing period is referred to as the “forecast period”. Second, the TCAM  
13      provides all available actual cost and revenue (recovery) data referred to as the  
14      “reconciliation period”. Any over- or under-recoveries that are incurred in the  
15      reconciliation period are rolled into the subsequent billing period as part of the  
16      next TCAM rate.

17   **Q.    What is the forecast period used in this filing, and what is the reconciliation**  
18       **period?**

19    A.    The forecast period in this filing is the twelve-month period August 2022 through  
20       July 2023. The reconciliation period includes actual results for August 2021

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1 through May 2022 and estimated results for June through July 2022. As noted  
2 above, the Settled Formula Rate became effective January 1, 2022. Therefore,  
3 actual costs during the reconciliation period will reflect activity under both the pre-  
4 and post-settlement FERC-approved tariffs.

5 **Q. What is Eversource proposing as its annual TCAM rate in this filing?**

6 A. As shown in Attachment MBP-1, Page 1, Eversource is proposing a forecasted  
7 average TCAM rate of 2.179 cents/kWh, as compared to the current average rate  
8 of 2.785 cents/kWh. The decrease in the average TCAM rate is driven primarily  
9 by higher projected revenue credits associated with the HQ support contract and a  
10 projected retail transmission over-recovery of approximately \$25.1 million as of  
11 July 31, 2022. While the average TCAM rate reflects RNS and LNS cost  
12 estimates based on the latest known RNS and LNS rates applied to PSNH's  
13 monthly forecasted peak load, these rate changes are not significant drivers of a  
14 change in the proposed average TCAM rate effective August 1, 2022, as illustrated  
15 in Exhibit MBP-1, page 2, lines 1 and 3.

16  
17  
18

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1 Q. Do the RNS and LNS expense forecasts contained in this filing reflect the most  
2 current FERC jurisdictional transmission rates that are effective during the  
3 forecast period?

4 A. Yes. Please see the table below for the FERC jurisdictional transmission rates that  
5 will be in effect on August 1, 2022 and January 1, 2023, as well as the prior year's  
6 FERC jurisdictional transmission rates approved in DE 21-109:

FERC Approved Rates	Description	DE 22-034		DE 21-109		Change	
		Aug 22 to Dec 22 **	Jan 23 to Jul 23 **	Aug 21 to Dec 21	Jan 22 to Jul 22 **	Aug to Dec	Jan to Jul
RNS Rate	\$ per kW per year	\$ 142.78	\$ 140.94	\$ 140.98	\$ 143.73	\$ 1.80	\$ (2.78)
	\$ per MWh	\$ 31.02	\$ 30.62	\$ 30.39	\$ 30.98	\$ 0.63	\$ (0.36)
LNS Monthly Expense	Load Ratio Share	80.4%	80.4%	21.6%	79.0%	58.8%	1.4%
	Expense	\$ 2,134,000	\$ 2,291,000	\$ 2,114,000	\$ 2,059,000	\$ 20,000	\$ 232,000
	\$ per MWh	\$ 4.25	\$ 4.50	\$ 4.05	\$ 4.23	\$ 0.20	\$ 0.27
** reflects change per the Rate Transparency Settlement approved in Docket No. ER20-2054-000							

7  
8  
9 Q: Please explain how the change in RNS rates impacts the Company's proposed  
10 revenue requirement.

11 A. The Table above provides the RNS rates that are reflected in the TCAM rate  
12 proposed for the period August 1, 2022 through July 31, 2023 and the rate previously  
13 approved for the period August 1, 2021 through July 31, 2022. As reflected in  
14 Exhibit MBP-1, page 2, line 1, the Company is projecting a relatively small decrease  
15 in the estimated RNS expenses for the forecast period August 1, 2022 through July  
16 31, 2023, as compared to the prior year's forecasted RNS expenses. The decrease  
17 is primarily due to the projected decrease in the January 1, 2023 RNS rate. This  
18 RNS rate decrease is due to higher actual 2021 RNS loads than 2020 and the true-  
19 up to 2021 actual RNS revenue requirements, which is in an over-recovery position

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1 largely due to beginning to amortize the excess accumulated deferred income taxes  
2 associated with the reduced federal income tax rate under the Tax Cuts and Jobs  
3 Act<sup>4</sup>. This over-recovery is being refunded to RNS customers in the January 1, 2023  
4 RNS rate. These rate decreases are partially offset by incremental forecasted RNS  
5 revenue requirements associated with forecasted investments. The TCAM thus  
6 reflects lower RNS costs attributable to the Company in accordance with applicable  
7 FERC-approved tariffs.

8 **Q. In Order No. 26,031 (June 28, 2017) in Docket No. DE 17-081, the**  
9 **Commission noted that there have been changes in the RNS rates as a result**  
10 **of changes in peak demand throughout New England. In that order, the**  
11 **Commission noted that as other states in the region reduce their share of peak**  
12 **load relative to the total, New Hampshire's share of the peak, and allocation**  
13 **of costs, increases. The Commission stated that it expected the Company to**  
14 **explain its efforts to reduce peak demand in New Hampshire in future TCAM**  
15 **filings. What efforts has Eversource made to address peak demand in New**  
16 **Hampshire?**

17 **A.** As the Company described during the hearing in Docket No. DE 17-081, energy  
18 efficiency programs reduce consumption of energy (kWh), and costs, for

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<sup>4</sup> The FERC Orders approving the NETO's regional and Eversource's local Order 864 compliance filings, including the effective date of January 20, 2020, was received in 2021 in Dockets ER20-2572, ER21-1130 and ER21-1295.

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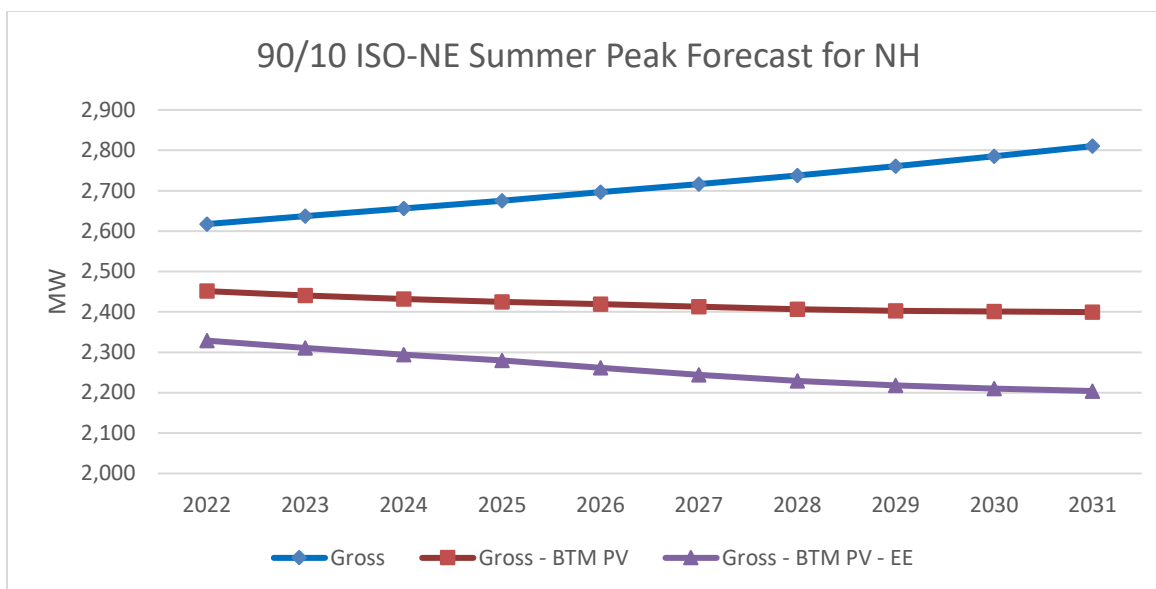
1 customers across New Hampshire. The efficiency measures that reduce kWh often  
2 also reduce electric demand (kW) at the ISO-NE, distribution and customer levels  
3 during peak periods. Per the end of year energy efficiency filing in Docket DE 20-  
4 092, the efficiency measures installed in 2021 were estimated to achieve 15.0 MW  
5 in summer peak demand reduction and 14.2 MW in winter peak demand reduction.  
6 The revised energy efficiency plan for 2022-2023, also filed in Docket No. DE 20-  
7 092 and approved by the Commission in Order No. 26,621 (April 29, 2022),  
8 established goals for 2022 and 2023. The revised plan included estimates of kW  
9 savings. The efficiency measures proposed for 2022-2023 are estimated to achieve  
10 16.8 MW in summer peak demand reduction and 15.7 MW in winter peak demand  
11 reduction. As with the kWh savings, the demand savings will persist over the  
12 lifetime of the measures installed.

13 ISO-NE has recognized the impact of these energy efficiency measures on its peak  
14 demand forecast for New Hampshire, as shown in the below chart<sup>5</sup>:

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<sup>5</sup> Graphical representation of the 90/10 data contained in the Final 2022 CELT Report published April 29, 2022, using data from the 6.2 Forecasts for Transmission tab.  
<https://www.iso-ne.com/system-planning/system-plans-studies/celt>

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As is the case in New Hampshire, the majority of demand savings from energy efficiency programs in the region are achieved as a secondary benefit of the measures designed to generate kWh savings. However, New Hampshire efficiency programs have been monitoring demand management demonstrations and programs taking place in other states to advance tailored methodologies for adoption in New Hampshire. During the 2018-2020 triennium, the Company launched Active Demand Reduction (ADR) pilot programs for (i) Commercial and Industrial load curtailment, (ii) Residential Battery Storage and (iii) Wi-Fi thermostat direct load control. These pilot programs were continued into the current 2021-2023 term, where results indicate that the 2021 ADR initiative achieved 8.4 MW in summer peak demand reduction. For the final two years of the 2021-2023 term, the Company will build upon the demonstrations offered in 2019 through 2021 and will continue to offer them as pilot programs. The active



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1 demand measures planned for 2022-2023 are estimated to achieve 17.3 MW in  
2 summer peak demand reduction.

3

4 **Q. Has Eversource taken any other direct efforts to reduce peak demand in New**  
5 **Hampshire?**

6 A. Yes, Eversource has developed a Commercial and Industrial Demand Reduction  
7 Initiative as part of its energy efficiency offerings. This initiative was approved as  
8 part of the 2019 Update plan in Docket No. DE 17-136. Under an ADR approach,  
9 customers agree to respond to an event call targeting conditions that typically  
10 result in peak reductions through curtailment service providers (“CSPs”)—vendors  
11 who identify curtailable load, enroll customers, manage curtailment events, and  
12 calculate payments. The customer is incentivized to respond to event calls using  
13 performance-based incentives. This approach is technology agnostic and can  
14 utilize single end-use control strategies or a multitude of approaches that can  
15 reduce demand when an event is called. This typically entails customers using  
16 lighting with both manual and automated controls, HVAC with both manual and  
17 automated controls, process loads, scheduling changes, excess Combined Heat &  
18 Power (CHP) capacity, and energy storage to reduce demand. The residential  
19 ADR initiative consists of two main bring-your-own-device offerings: Battery  
20 Storage and Wi-Fi thermostats. In the lead up to the next triennial plan, the New

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1 Hampshire utilities will explore a range of offerings and program options,  
2 including electric vehicle load management.  
3

4 **Q. Did Eversource conduct a lead/lag study for the TCAM as required in Order**  
5 **No. 25,912, dated June 28, 2016, in Docket No. DE 16-566?**

6 A. Yes, Eversource conducted a lead/lag study for the TCAM and provides that  
7 analysis as Attachment MBP-2. The results of the lead/lag analysis will be applied  
8 effective August 1, 2022. This lead/lag study methodology is substantially the  
9 same as that provided in Docket Nos. DE 20-085 and DE 21-109.  
10

11 **Q. How is cash working capital estimated through a lead-lag study?**

12 A. A lead/lag study identifies the amount of time it typically takes for the Company to  
13 collect revenue from customers, as well as the amount of time the Company takes  
14 to make payment for applicable operating costs. The difference between those two  
15 numbers is used as the basis to estimate cash working capital requirements.  
16

17 **Q. Please describe the lead/lag study completed for the TCAM provided as**  
18 **Attachment MBP-2.**

19 A. The Lead/Lag Study consists of 13 pages of calculations and supporting schedules  
20 to calculate working capital allowances by month for RNS, S&D, LNS, Reliability,  
21 HQ Interconnection Capacity Credits (HQ ICC), and HQ support components.

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1 Revenue lag days are the same for all components, however expense lead days vary  
2 by component. Each component has a separate expense lead days schedule.

3

4 **Q. Please define the terms “revenue lag days” and “expense lead days.”**

5 A. Revenue lag is the time, measured in days, between delivery of a service to  
6 Eversource customers and the receipt by Eversource of the payment for such service.  
7 Similarly, expense lead is the time, again measured in days, between the  
8 performance of a service on behalf of Eversource by a vendor or employee and  
9 payment for such service by Eversource. Since base rates are based on revenue and  
10 expenses booked on an accrual basis, the revenue lag results in a need for capital  
11 while the expense lead offsets this need to the extent the Company is typically not  
12 required to reimburse its vendors until after a service is provided.

13

14 **Q. How is the retail revenue lag computed?**

15 A. The retail revenue lag consists of a “meter reading or service lag,” “collection lag”  
16 and a “billing lag.” The sum of the days associated with these three lag components  
17 is the total retail revenue lag experienced by Eversource. See Attachment MBP-2,  
18 Page 5.

19

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1   **Q.     What lag does the Lead/Lag Study reveal for the component "meter reading or**  
2       **service lag?"**

3   A.     The Lead/Lag Study reveals a lag of 15.21 days. This lag was obtained by dividing  
4       the number of billing days in the test year by 12 months and then in half to arrive at  
5       the midpoint of the monthly service periods.

6  
7   **Q.     How was the “collection lag” calculated and what was the result?**

8   A.     The “collection lag” for TCAM totaled 31.08 days. This lag reflects the time delay  
9       between the mailing of customer bills and the receipt of the billed revenues from  
10      customers. The 31.08-day lag was arrived at by a thorough examination of TCAM  
11      accounts receivable balances using the accounts receivable turnover method. End-  
12      of-month balances were utilized as the measure of customer accounts receivable.  
13      Attachment MBP-2, Page 6 details monthly balances for the majority of the accounts  
14      receivable. Attachment MBP-2, Page 5 calculated the average daily revenue amount  
15      by dividing total revenue by 365 days. The resulting Collection Lag is derived by  
16      dividing the average daily accounts receivable balance by the average daily revenue  
17      amount to arrive at the Collection lag of 31.08 days.

18  
19   **Q.     How did you arrive at the 1.48 day “billing lag”?**

20   A.     Nearly all customers are billed the evening after the meters are read. However, if a  
21      meter is read on a Friday or prior to a scheduled holiday, there is additional lag over

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1 the weekend or holiday. Consistent with prior year filings, the Company's billing  
2 lag calculation accounts for this additional lag. The updated lead/lag study uses a  
3 1.48-day billing lag as shown in Attachment MBP-2, Page 7. An exception for large  
4 customers, which may require additional time to process, has not been made in this  
5 calculation.

6  
7 **Q. Is the total retail revenue lag computed from these separate lag calculations?**

8 A. Yes. The total retail revenue lag of 47.77 days is computed by adding the number  
9 of days associated with each of the three retail revenue lag components. See,  
10 Attachment MBP-2, Page 5. This total number of lag days represents the amount of  
11 time between the recorded delivery of service to retail customers and the receipt of  
12 the related revenues from retail customers.

13  
14 **Q. Please explain how the RNS, S&D, LNS, Reliability, HQ expenses, and HQ**  
15 **ICC lead/lag period is determined.**

16 A. The monthly payments were reviewed and the expense lead days were calculated  
17 based on the actual payment date of the payments. Once the lead days for each  
18 category were determined, they were summarized and dollar weighted according to  
19 2021 actual annual amounts to arrive at the lead days. These calculations are shown  
20 in Attachment MBP-2, pages 8 through 13.

21

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1   **Q.     Please explain how the Eversource Energy Service Company (EESC) due date**  
2       **is determined related to LNS billings.**

3   A.     Per the terms of the service contract between the Company and EESC, bills are  
4       rendered for each calendar month on or before the twentieth day of the succeeding  
5       month and are payable upon presentation and not later than the last day of that  
6       month.

7

8   **Q.     Has the Company included an expense lead for the 2020 LNS true-up amount**  
9       **that was accounted for in May 2021? If so, please explain how the expense**  
10      **lead is determined relative to 2020 LNS true-up amount compared to the**  
11      **current month LNS billing in May 2021.**

12   A.     Yes. As shown in Attachment MBP-2, Page 10, the expense lead for the prior year  
13       2020 LNS true up under recovery is determined by calculating the number of days  
14       from the mid-point of the true-up calendar year (in this case 2020) to the payment  
15       date. This results in a longer expense lead compared to the current month LNS  
16       billing.

17

18   **Q.     Has the Company included an expense lead for the one-time 2021 LNS**  
19       **refund/true-up adjustment over recovery amount of approximately (\$7.9)**  
20       **million that was accounted for in November 2021?**

21   A.     Yes. As described above and shown in Attachment MBP-2, Page 10, the expense

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1 lead for the one-time 2021 LNS refund/true up adjustment over recovery amount is  
2 determined by calculating the number of days from the mid-point of the refund/true-  
3 up adjustment period (in this case January to September 2021) to the payment date.

4  
5 **Q. Please explain how the change in RNS rates impacts the Company's proposed**  
6 **revenue requirement.**

7 A. As noted earlier in this testimony, a projected decrease in the RNS rate effective  
8 January 1, 2023 is resulting in lower projected RNS costs and the TCAM thus  
9 reflects the lower RNS costs attributable to the Company in accordance with  
10 applicable FERC-approved tariffs.

11

12 **Q. Would you summarize the Company's proposal regarding Cash Working**  
13 **Capital?**

14 A. Yes, the results of Eversource's TCAM Cash Working Capital lead/lag analysis  
15 is summarized in the table below:

	Revenue	Cost	Net	Net
Components	Lag days	Lead Days	Lag Days	Lag %
RNS	47.8	62.9	(15.2)	-4.15%
S&D	47.8	62.9	(15.2)	-4.15%
LNS	47.8	104.8	(57.0)	-15.63%
Reliability	47.8	63.0	(15.2)	-4.17%
HQ Expense	47.8	57.2	(9.4)	-2.58%
HQ ICC	47.8	62.7	(14.9)	-4.09%

16

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1 Application of these values results in a total forecast cash working capital  
2 allowance of (\$12.587) million and a forecast return on working capital of  
3 (\$1.101) million for the period August 2022 through July 2023 as shown in  
4 Attachment MBP-2, page 1, lines 19 and 21.  
5

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

7 A. Yes, Eversource is requesting final approval of the proposed TCAM rate change  
8 by July 22, 2022 to allow for the implementation of an August 1, 2022 change in  
9 rates.  
10

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

12 A. Yes, it does.



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**Index**

**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY**  
**TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION**

**Page**     **Attachment MBP - 1**

- 1     TCAM Rate Calculation - August 2022 through July 2023
- 2     TCAM Rate Calculation - Comparison of Forecast to Currently Allowed TCAM
- 3     Forecast Costs - August 2022 through July 2023
- 4     Actual/Forecast Costs - August 2021 through July 2022
- 5     Actual Costs - August 2020 through July 2021

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**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY**  
**TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION**  
**(\$ in 000s)**

	<b>TCAM Rate Calculation</b> <b>August 2022 Through July 2023</b>	<b>Forecast</b> <b>Summary</b>	<b>Attachment/Reference</b>
1	Regional Network Service (RNS)	\$ 186,922	MBP-1, Page 2, Line 3
2	Scheduling and Dispatch (S&D)	2,313	MBP-1, Page 2, Line 5
3	Local Network Service (LNS)	28,749	MBP-1, Page 2, Line 7
4	Reliability	7,975	MBP-1, Page 2, Line 9
5	Hydro-Quebec Interconnection Capacity Credits	(4,408)	MBP-1, Page 2, Line 11
6	Hydro-Quebec Support Costs	3,250	MBP-1, Page 2, Line 13
7	Return on TCAM Working Capital	(1,101)	MBP-1, Page 2, Line 15
8	Revenue Credits	<u>(32,279)</u>	MBP-1, Page 2, Line 19
9	Total Forecasted Costs	\$ 191,421	Sum of Line 1 to Line 8
10	Cumulative Estimated (Over) / Under Recovery	<u>(25,059)</u>	MBP-1, Page 2, Line 17
11	Total Costs	\$ 166,361	Line 9 + Line 10
12	Forecasted Retail MWH Sales	<u>7,633,526</u>	MBP-1, Page 2, Line 23
13	Forecasted TCAM Rate--cents per kWh	<u><u>2.179</u></u>	(Line 11 / Line 12) * 100
14	Amounts shown above may not add due to rounding.		

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Attachment MBP-1

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**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY**  
**TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION**  
**(\$ in 000s)**

Note: This schedule is provided as an aid to analysis and is not part of the rate calculation

TCAM Rate Calculation		Proposed Forecast	Approved Forecast (1)		
Line	Comparison of Forecast to Currently Allowed	12 month period Aug 22 to Jul 23	12 month period Aug 21 to Jul 22	\$ Change	% Change
	(A)	(B)	(C)	(D) (B) - (C)	(E) (D) / (C)
1	Regional Network Service (RNS)	\$ 186,922	\$ 187,667	\$ (745)	-0.4%
2	Scheduling and Dispatch (S&D)	2,313	2,461	(148)	-6.0%
3	Local Network Service (LNS)	28,749	27,146	1,603	5.9%
4	Reliability	7,975	7,633	342	4.5%
5	Hydro-Quebec Interconnection Capacity Credits	(4,408)	(5,556)	1,148	-20.7%
6	Hydro-Quebec Support Costs	3,250	3,513	(263)	-7.5%
7	Return on TCAM Working Capital	(1,101)	(1,712)	611	-35.7%
8	Revenue Credits	(32,279)	(12,176)	(20,104)	165.1%
9	Sub-total	\$ 191,421	\$ 208,977	\$ (17,556)	-8.4%
10	Prior Period (Over) / Under Recovery	(25,059)	4,778	(29,837)	-624.5%
11	Total	\$ 166,361	\$ 213,755	\$ (47,394)	-22.2%
12	Retail MWH Sales	7,633,526	7,673,863	(40,337)	-0.5%
13	TCAM Rate--cents per kWh	2.179	2.785	(0.606)	-21.8%

14 (1) DE 21-109; Order No. 26,501 dated July 29, 2021

15 Amounts shown above may not add due to rounding.

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Page 3PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY  
TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION  
August 2022 through July 2023  
(\$ in 000s)

	Forecast													12 Month Total	Reference
	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23		
1 <b>Retail Transmission Cost</b>															
2 Retail Transmission Operating Revenues		\$ (15,493)	\$ (13,165)	\$ (12,989)	\$ (12,984)	\$ (14,886)	\$ (14,982)	\$ (13,455)	\$ (13,614)	\$ (12,515)	\$ (12,512)	\$ (13,805)	\$ (15,933)	\$ (166,335)	Company Forecast
3 Regional Network Service (RNS)		19,240	16,745	12,561	14,143	15,144	15,510	14,472	14,105	12,535	14,611	17,800	20,056	186,922	Company Forecast
4 Scheduling and Dispatch (S&D)		236	206	154	174	186	193	180	176	156	182	221	250	2,313	Company Forecast
5 Local Network Service (LNS) (1)		2,807	2,465	1,892	2,109	2,246	2,450	2,298	2,244	2,013	2,318	2,787	3,119	28,749	Line 26 below
6 Reliability		658	658	658	658	658	658	658	673	673	673	673	673	7,975	Company Forecast
7 Hydro-Quebec Interconnection Capacity Credits		(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(204)	(204)	(4,408)	Company Forecast
8 Hydro-Quebec Support Costs		271	271	271	271	271	271	271	271	271	271	271	271	3,250	Company Forecast
9 Return on TCAM Working Capital Allowance (2)		(111)	(97)	(74)	(82)	(88)	(92)	(86)	(84)	(75)	(87)	(106)	(119)	(1,101)	Attachment MBP-2, Page 1, Line 21
10 Revenue Credits (3)		(2,690)	(2,690)	(2,690)	(2,690)	(2,690)	(2,690)	(2,690)	(2,690)	(2,690)	(2,690)	(2,690)	(2,690)	(32,279)	Company Forecast
11 Retail Transmission Operating Costs		\$ 20,013	\$ 17,158	\$ 12,373	\$ 14,182	\$ 15,328	\$ 15,900	\$ 14,703	\$ 14,295	\$ 12,483	\$ 14,878	\$ 18,752	\$ 21,356	\$ 191,421	Sum of Line 3 to Line 10
12 (Over) / Under-Recovery		\$ 4,520	\$ 3,993	\$ (616)	\$ 1,198	\$ 441	\$ 918	\$ 1,248	\$ 681	\$ (32)	\$ 2,366	\$ 4,947	\$ 5,423	\$ 25,086	Line 3 + Line 11
13 Cumulative (Over) / Under-Recovery		\$ (24,989)	\$ (20,469)	\$ (16,476)	\$ (17,092)	\$ (15,894)	\$ (15,453)	\$ (14,535)	\$ (13,287)	\$ (12,606)	\$ (12,638)	\$ (10,273)	\$ (5,326)	\$ 97	(Prior Mo. Line 13 + Current Mo. Line 12)
14 <b>Calculation of Return/Deferral</b>															
15 Average Balance		(22,729)	(18,473)	(16,784)	(16,493)	(15,673)	(14,994)	(13,911)	(12,947)	(12,622)	(11,455)	(7,799)	(2,614)		(Prior Mo. Line 13 + Current Mo. Line 13) / 2
16 x Return at Prime Rate		0.3333%	0.3333%	0.3333%	0.3333%	0.3333%	0.3333%	0.3333%	0.3333%	0.3333%	0.3333%	0.3333%	0.3333%		Annual Prime Rate / 12
17 Return-Monthly		\$ (76)	\$ (62)	\$ (56)	\$ (55)	\$ (52)	\$ (50)	\$ (46)	\$ (43)	\$ (42)	\$ (38)	\$ (26)	\$ (9)	\$ (555)	Line 15 * Line 16
18 Cumulative Return		\$ (70)	\$ (146)	\$ (208)	\$ (263)	\$ (318)	\$ (371)	\$ (421)	\$ (467)	\$ (510)	\$ (552)	\$ (590)	\$ (616)	\$ (625)	(Prior Mo. Line 18 + Current Mo. Line 17)
19 Cumulative (Over) / Under Recovery, Including Return		\$ (25,059)	\$ (20,615)	\$ (16,683)	\$ (17,356)	\$ (16,212)	\$ (15,823)	\$ (14,955)	\$ (13,754)	\$ (13,116)	\$ (13,191)	\$ (10,863)	\$ (5,942)	\$ (528)	Line 13 + Line 18
20 Estimated Retail MWH Sales		711,014	604,181	596,091	595,874	683,171	687,585	617,484	624,773	574,357	574,228	633,565	731,204	7,633,526	Company Forecast
21 Note 1 - LNS includes the following:															
22 LNS - ISO-NE Current Month		\$ 2,637	\$ 2,295	\$ 1,722	\$ 1,939	\$ 2,076	\$ 2,280	2,128	2,074	1,843	2,148	2,617	2,949	\$ 26,708	Company Forecast
23 LNS - ISO-NE Prior Year True-Up		-	-	-	-	-	-	-	-	-	-	-	-	-	Company Forecast
24 Other		-	-	-	-	-	-	-	-	-	-	-	-	-	Company Forecast
25 LNS - HQ Current Month		170	170	170	170	170	170	170	170	170	170	170	170	2,042	Company Forecast
26 LNS Total		\$ 2,807	\$ 2,465	\$ 1,892	\$ 2,109	\$ 2,246	\$ 2,450	\$ 2,298	\$ 2,244	\$ 2,013	\$ 2,318	\$ 2,787	\$ 3,119	\$ 28,749	Sum of Line 22 to Line 25

27 Note 2 - The return on the working capital allowance is based on the calculation provided in the Lead/Lag Analysis Attachment MBP-2, Page 1, Line 21.

28 Note 3 - Revenue credits represent Hydro-Quebec (H-Q) revenues associated with the H-Q support contract.

29 Amounts shown above may not add due to rounding.

**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY**  
**TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION**  
**August 2021 - July 2022**  
**(\$ in 000s)**

		Actual										Forecast			12 Month Total		Reference
		Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22			
1	<b><u>Retail Transmission Costs</u></b>																
2	Retail Transmission Operating Revenues		\$ (21,999)	\$ (17,420)	\$ (17,632)	\$ (16,954)	\$ (18,914)	\$ (19,983)	\$ (17,608)	\$ (18,111)	\$ (15,633)	\$ (17,131)	\$ (17,558)	\$ (20,259)	\$ (219,202)	Company Actual/Forecast	
3	Regional Network Service (RNS)		18,049	20,345	15,204	27,552	10,957	17,083	16,298	13,873	11,485	15,694	17,966	20,220	204,726	Company Actual/Forecast	
4	Scheduling and Dispatch (S&D)		141	153	122	215	73	121	208	97	73	138	235	248	1,825	Company Actual/Forecast	
5	Local Network Service (LNS) (1)		2,236	2,148	(5)	(7,836)	303	2,216	2,482	2,087	1,843	(18,941)	2,633	2,942	(7,894)	Line 25 below	
6	Reliability		819	723	1,284	1,785	538	778	685	633	537	659	658	658	9,758	Company Actual/Forecast	
7	Hydro-Quebec Interconnection Capacity Credits		(470)	(472)	(471)	(471)	(476)	(450)	(8)	(470)	(1,395)	(14)	(400)	(400)	(5,496)	Company Actual/Forecast	
8	Hydro-Quebec Support Costs		201	188	218	11	402	177	174	237	153	(150)	271	271	2,153	Company Actual/Forecast	
9	Return on TCAM Working Capital (2)		(155)	(162)	(73)	112	(57)	(149)	(156)	(129)	(106)	518	(166)	(186)	(710)	Attachment MBP-2, Page 2, Line 21	
10	Revenue Credits (3)		(1,015)	(1,015)	(1,015)	(1,015)	(1,015)	(1,015)	(1,015)	(1,015)	(1,015)	(1,015)	(2,690)	(2,690)	(15,526)	Company Actual/Forecast	
11	Retail Transmission Operating Costs		\$ 19,806	\$ 21,908	\$ 15,266	\$ 20,353	\$ 10,725	\$ 18,760	\$ 18,668	\$ 15,314	\$ 11,576	\$ (3,109)	\$ 18,508	\$ 21,063	\$ 188,837	Sum of Line 3 to Line 10	
12	(Over) / Under-Recovery		\$ (2,193)	\$ 4,488	\$ (2,366)	\$ 3,399	\$ (8,189)	\$ (1,223)	\$ 1,060	\$ (2,797)	\$ (4,058)	\$ (20,239)	\$ 949	\$ 804	\$ (30,366)	Line 2 + Line 11	
13	Cumulative (Over) / Under-Recovery	\$ 5,377	\$ 3,183	\$ 7,671	\$ 5,305	\$ 8,704	\$ 515	\$ (708)	\$ 352	\$ (2,445)	\$ (6,503)	\$ (26,742)	\$ (25,793)	\$ (24,989)		(Prior Mo. Line 13 + Current Mo. Line 12)	
14	<b><u>Calculation of Return/Deferral</u></b>																
15	Average Balance		4,280	5,427	6,488	7,004	4,609	(97)	(178)	(1,047)	(4,474)	(16,622)	(26,268)	(25,391)		(Prior Mo. Line 13 + Current Mo. Line 13) / 2	
16	x Return at Prime Rate		0.2708%	0.2708%	0.2708%	0.2708%	0.2708%	0.2708%	0.2708%	0.2808%	0.2917%	0.3283%	0.3333%	0.3333%		Annual Prime Rate / 12	
17	Return-Monthly		\$ 12	\$ 15	\$ 18	\$ 19	\$ 12	\$ (0)	\$ (0)	\$ (3)	\$ (13)	\$ (55)	\$ (88)	\$ (85)	\$ (168)	Line 15 * Line 16	
18	Cumulative Return	\$ 98	\$ 110	\$ 124	\$ 142	\$ 161	\$ 173	\$ 173	\$ 173	\$ 170	\$ 157	\$ 102	\$ 14	\$ (70)		(Prior Mo. Line 18 + Current Mo. Line 17)	
19	Cumulative (Over) / Under Recovery, Including Return	\$ 5,475	\$ 3,293	\$ 7,795	\$ 5,447	\$ 8,865	\$ 688	\$ (535)	\$ 524	\$ (2,276)	\$ (6,346)	\$ (26,640)	\$ (25,779)	\$ (25,059)		Line 13 + Line 18	
20	Note 1 - LNS includes the following:																
21	LNS - ISO-NE Current Month	\$ 2,103	\$ 2,114	\$ -	\$ -	\$ -	\$ 2,017	\$ 2,305	\$ 1,893	\$ 1,649	\$ 1,340	\$ 2,463	\$ 2,772	\$ 18,655		Company Actual/Forecast	
22	LNS - ISO-NE Prior Year True-Up	-	-	-	-	-	-	-	-	-	(20,222)	-	-	(20,222)		Company Actual/Forecast	
23	LNS - ISO-NE One-Time Refund/True-Up (4)	-	-	-	(7,903)	-	-	-	-	-	-	-	-	(7,903)		Company Actual/Forecast	
24	LNS - HQ Current Month	133	34	(5)	67	303	198	177	194	194	(59)	170	170	1,575		Company Actual/Forecast	
25	LNS Total	\$ 2,236	\$ 2,148	\$ (5)	\$ (7,836)	\$ 303	\$ 2,216	\$ 2,482	\$ 2,087	\$ 1,843	\$ (18,941)	\$ 2,633	\$ 2,942	\$ (7,894)		Sum of Line 21 to Line 24	
26	Note 2 - The return on the working capital allowance per Attachment MBP-2, Page 2, Line 21.																
27	Note 3-- Revenue credits include Hydro-Quebec revenues.																
28	Note 4-- Represents a credit issued to LNS customers to mitigate an (over) recovery resulting primarily from higher than expected RNS revenue credits.																
29	Amounts shown above may not add due to rounding.																

**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY**  
**TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION**  
**August 2020 - July 2021**  
**(\$ in 000s)**

Actual															
	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	12 Month Total	Reference
1 <b>Retail Transmission Costs</b>															
2 Retail Transmission Operating Revenues		\$ (18,809)	\$ (18,660)	\$ (16,822)	\$ (16,894)	\$ (18,777)	\$ (18,040)	\$ (17,955)	\$ (17,092)	\$ (15,369)	\$ (16,886)	\$ (20,656)	\$ (19,965)	\$ (215,924)	Company Actual
3 Regional Network Service (RNS)		18,452	17,546	14,012	11,313	12,898	13,897	13,427	13,484	13,166	10,731	15,298	20,504	174,729	Company Actual
4 Scheduling and Dispatch (S&D)		249	237	189	153	174	112	112	107	105	88	111	156	1,794	Company Actual
5 Local Network Service (LNS) (1)		2,263	2,258	2,271	2,248	2,083	2,341	2,285	2,294	2,331	10,004	2,256	2,322	34,956	Line 29 below
6 Reliability		533	602	582	555	475	591	621	631	641	618	602	689	7,139	Company Actual
7 Hydro-Quebec Interconnection Capacity Credits		(578)	(576)	(584)	(567)	(583)	(577)	(573)	(579)	(578)	(585)	(585)	(355)	(6,720)	Company Actual
8 Hydro-Quebec Support Costs		368	312	334	205	236	270	210	212	222	241	237	239	3,088	Company Actual
9 Return on TCAM Working Capital (2)		(63)	(59)	(40)	(28)	(37)	(36)	(36)	(36)	(34)	66	(44)	(70)	(417)	Attachment MBP-2, Page 3, Line 21
10 Revenue Credits (3)		(368)	(312)	(334)	(205)	(236)	(270)	(210)	(212)	(222)	(241)	(1,015)	(1,015)	(4,641)	Company Actual
11 Retail Transmission Operating Costs		\$ 20,857	\$ 20,008	\$ 16,429	\$ 13,673	\$ 15,009	\$ 16,328	\$ 15,836	\$ 15,902	\$ 15,632	\$ 20,922	\$ 16,859	\$ 22,471	\$ 209,927	Sum of Line 3 to Line 10
12 (Over) / Under-Recovery		\$ 2,048	\$ 1,348	\$ (392)	\$ (3,220)	\$ (3,768)	\$ (1,712)	\$ (2,118)	\$ (1,190)	\$ 263	\$ 4,036	\$ (3,797)	\$ 2,506	\$ (5,997)	Line 2 + Line 11
13 Cumulative (Over) / Under-Recovery	\$ 11,374	\$ 13,421	\$ 14,769	\$ 14,377	\$ 11,157	\$ 7,388	\$ 5,677	\$ 3,558	\$ 2,368	\$ 2,631	\$ 6,667	\$ 2,870	\$ 5,377		(Prior Mo. Line 13 + Current Mo. Line 12)
14 <b>Calculation of Return/Deferral</b>															
15 Average Balance		12,398	14,095	14,573	12,767	9,273	6,532	4,617	2,963	2,499	4,649	4,769	4,123		(Prior Mo. Line 13 + Current Mo. Line 13) / 2
16 Deferred tax calculation--															
17 Deferred tax rate		27.083%	27.083%	27.083%	27.083%	27.083%	27.083%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%		Composite Tax Rate (Federal + State)
18 ADIT on the average balance		\$ (3,358)	\$ (3,817)	\$ (3,947)	\$ (3,458)	\$ (2,511)	\$ (1,769)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		Line 15 * Line 17
19 Average Balance, Net of Accum. Def. Income Taxes		\$ 9,040	\$ 10,278	\$ 10,626	\$ 9,309	\$ 6,761	\$ 4,763	\$ 4,617	\$ 2,963	\$ 2,499	\$ 4,649	\$ 4,769	\$ 4,123		Line 15 + Line 18
20 x Return at Prime Rate		0.2708%	0.2708%	0.2708%	0.2708%	0.2708%	0.2708%	0.2708%	0.2708%	0.2708%	0.2708%	0.2708%	0.2708%		Annual Prime Rate / 12
21 Return-Monthly		\$ 24	\$ 28	\$ 29	\$ 25	\$ 18	\$ 13	\$ 13	\$ 8	\$ 7	\$ 13	\$ 13	\$ 11	\$ 201	Line 19 * Line 20
22 Cumulative Return		\$ (103)	\$ (79)	\$ (51)	\$ (22)	\$ 3	\$ 21	\$ 34	\$ 47	\$ 55	\$ 61	\$ 74	\$ 87	\$ 98	(Prior Mo. Line 22 + Current Mo. Line 21)
23 Cumulative (Over) / Under Recovery, Including Return		\$ 11,270	\$ 13,342	\$ 14,718	\$ 14,355	\$ 11,160	\$ 7,410	\$ 5,711	\$ 3,605	\$ 2,423	\$ 2,692	\$ 6,741	\$ 2,957	\$ 5,475	Line 13 + Line 22
24 Note 1 - LNS includes the following:															
25 LNS - ISO-NE Current Month		\$ 2,104	\$ 2,114	\$ 2,130	\$ 2,132	\$ 2,140	\$ 2,132	\$ 2,118	\$ 2,125	\$ 2,115	\$ 2,087	\$ 2,134	\$ 2,116	\$ 25,445	Company Actual
26 LNS - ISO-NE Prior Year True-Up		-	-	-	-	-	-	-	-	-	7,656	-	-	7,656	Company Actual
27 Other		-	-	-	-	-	-	-	-	-	-	-	-	-	Company Actual
28 LNS - HQ Current Month		159	144	141	117	(57)	209	168	169	216	261	122	206	1,854	Company Actual
29 LNS Total		\$ 2,263	\$ 2,258	\$ 2,271	\$ 2,248	\$ 2,083	\$ 2,341	\$ 2,285	\$ 2,294	\$ 2,331	\$ 10,004	\$ 2,256	\$ 2,322	\$ 34,956	Sum of Line 25 to Line 28
30 Note 2 - The return on the working capital allowance per Attachment MBP-2, Page 3, Line 21.															
31 Note 3-- Revenue credits include Hydro-Quebec revenues.															
32 Amounts shown above may not add due to rounding.															

**Docket No. DE 22-034**  
**Dated: June 20, 2022**  
**Attachment MBP-2**  
**Index**

**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY**  
**RETAIL TRANSMISSION CASH WORKING CAPITAL REQUIREMENT**

**Page**    **Attachment MBP-2**

1	Monthly Working Capital Allowance Calculation - August 2022 to July 2023
2	Monthly Working Capital Allowance Calculation - August 2021 to July 2022
3	Monthly Working Capital Allowance Calculation - August 2020 to July 2021
4	Working Capital Requirement
5	Revenue Lag
6	Monthly Accounts Receivable Balances
7	Billing Lag
8	Working Capital Requirement - Regional Network Service (RNS)
9	Working Capital Requirement - Scheduling and Dispatch (S&D)
10	Working Capital Requirement - Local Network Service (LNS)
11	Working Capital Requirement - Reliability
12	Working Capital Requirement - Hydro Quebec (HQ) Support
13	Working Capital Requirement - Hydro Quebec Interconnection Capacity Credit (HQICC)

Docket No. DE 22-034  
Dated: June 20, 2022  
Attachment MBP-2  
Page 1 of 13

**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY**  
**Retail Transmission Cash Working Capital Requirement**  
**Forecast for the 12 Months Ending July 31, 2023**  
**Monthly Working Capital Allowance Calculation**  
**(\$ in 000s)**

														12 Month	
Line	Retail Transmission Cost	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Total	Attachment/Reference
1	Regional Network Service (RNS)	\$ 19,240	\$ 16,745	\$ 12,561	\$ 14,143	\$ 15,144	\$ 15,510	\$ 14,472	\$ 14,105	\$ 12,535	\$ 14,611	\$ 17,800	\$ 20,056	\$ 186,922	MBP-1, Page 3, Line 3
2	(RNS) Working Capital Allowance Percent	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%		MBP-2, Page 4, Line 1
3	(RNS) Working Capital Allowance \$	\$ (799)	\$ (695)	\$ (522)	\$ (587)	\$ (629)	\$ (644)	\$ (601)	\$ (586)	\$ (520)	\$ (607)	\$ (739)	\$ (833)	\$ (7,761)	Line 1 x Line 2
4	Scheduling and Dispatch (S&D)	\$ 236	\$ 206	\$ 154	\$ 174	\$ 186	\$ 193	\$ 180	\$ 176	\$ 156	\$ 182	\$ 221	\$ 250	\$ 2,313	MBP-1, Page 3, Line 5
5	(S&D) Working Capital Allowance Percent	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%	-4.15%		MBP-2, Page 4, Line 2
6	(S&D) Working Capital Allowance \$	\$ (10)	\$ (9)	\$ (6)	\$ (7)	\$ (8)	\$ (8)	\$ (7)	\$ (7)	\$ (6)	\$ (8)	\$ (9)	\$ (10)	\$ (96)	Line 4 x Line 5
7	Local Network Service (LNS)	\$ 2,807	\$ 2,465	\$ 1,892	\$ 2,109	\$ 2,246	\$ 2,450	\$ 2,298	\$ 2,244	\$ 2,013	\$ 2,318	\$ 2,787	\$ 3,119	\$ 28,749	MBP-1, Page 3, Line 7
8	(LNS) Working Capital Allowance Percent	-15.63%	-15.63%	-15.63%	-15.63%	-15.63%	-15.63%	-15.63%	-15.63%	-15.63%	-15.63%	-15.63%	-15.63%		MBP-2, Page 4, Line 3
9	(LNS) Working Capital Allowance \$	\$ (439)	\$ (385)	\$ (296)	\$ (330)	\$ (351)	\$ (383)	\$ (359)	\$ (351)	\$ (315)	\$ (362)	\$ (436)	\$ (487)	\$ (4,493)	Line 7 x Line 8
10	Reliability	\$ 658	\$ 658	\$ 658	\$ 658	\$ 658	\$ 658	\$ 658	\$ 673	\$ 673	\$ 673	\$ 673	\$ 673	\$ 7,975	MBP-1, Page 3, Line 9
11	(Reliability) Working Capital Allowance Percent	-4.17%	-4.17%	-4.17%	-4.17%	-4.17%	-4.17%	-4.17%	-4.17%	-4.17%	-4.17%	-4.17%	-4.17%		MBP-2, Page 4, Line 4
12	(Reliability) Working Capital Allowance \$	\$ (27)	\$ (27)	\$ (27)	\$ (27)	\$ (27)	\$ (27)	\$ (27)	\$ (28)	\$ (28)	\$ (28)	\$ (28)	\$ (28)	\$ (333)	Line 10 x Line 11
13	Hydro-Quebec (HQ) Support Costs	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271	\$ 3,250	MBP-1, Page 3, Line 13
14	(HQ Support Costs) Working Capital Allowance Percent	-2.58%	-2.58%	-2.58%	-2.58%	-2.58%	-2.58%	-2.58%	-2.58%	-2.58%	-2.58%	-2.58%	-2.58%		MBP-2, Page 4, Line 5
15	(HQ Support Costs) Working Capital Allowance \$	\$ (7)	\$ (7)	\$ (7)	\$ (7)	\$ (7)	\$ (7)	\$ (7)	\$ (7)	\$ (7)	\$ (7)	\$ (7)	\$ (7)	\$ (84)	Line 13 x Line 14
16	Hydro-Quebec Interconnection Capacity Credits (HQICC)	\$ (400)	\$ (400)	\$ (400)	\$ (400)	\$ (400)	\$ (400)	\$ (400)	\$ (400)	\$ (400)	\$ (400)	\$ (204)	\$ (204)	\$ (4,408)	MBP-1, Page 3, Line 11
17	(HQ ICC) Working Capital Allowance Percent	-4.09%	-4.09%	-4.09%	-4.09%	-4.09%	-4.09%	-4.09%	-4.09%	-4.09%	-4.09%	-4.09%	-4.09%		MBP-2, Page 4, Line 6
18	(HQ ICC) Working Capital Allowance \$	\$ 16	\$ 16	\$ 16	\$ 16	\$ 16	\$ 16	\$ 16	\$ 16	\$ 16	\$ 16	\$ 8	\$ 8	\$ 180	Line 16 x Line 17
19	Monthly Working Capital Allowance \$	\$ (1,266)	\$ (1,107)	\$ (842)	\$ (942)	\$ (1,006)	\$ (1,053)	\$ (986)	\$ (962)	\$ (860)	\$ (995)	\$ (1,211)	\$ (1,357)	\$ (12,587)	Line 3 + Line 6 + Line 9 + Line 12 + Line 15 + Line 18
20	Rate of Return	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%		Authorized Return per DE 19-057 including tax gross up
21	Monthly Return on Working Capital	\$ (111)	\$ (97)	\$ (74)	\$ (82)	\$ (88)	\$ (92)	\$ (86)	\$ (84)	\$ (75)	\$ (87)	\$ (106)	\$ (119)	\$ (1,101)	Line 19 x Line 20



**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY**  
**Retail Transmission Cash Working Capital Requirement**  
**Actual/Forecast for the 12 Months Ending July 31, 2022**  
**Monthly Working Capital Allowance Calculation**  
**(\$ in 000s)**

Line	Retail Transmission Cost	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	12 Month Total	Attachment/Reference
1	Regional Network Service (RNS)	\$ 18,049	\$ 20,345	\$ 15,204	\$ 27,552	\$ 10,957	\$ 17,083	\$ 16,298	\$ 13,873	\$ 11,485	\$ 15,694	\$ 17,966	\$ 20,220	\$ 204,726	MBP-1, Page 4, Line 3
2	(RNS) Working Capital Allowance Percent	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%		DE 21-109 Attachment ELM-2, Pages 1 and 2, Line 2
3	(RNS) Working Capital Allowance \$	\$ (960)	\$ (1,083)	\$ (809)	\$ (1,466)	\$ (583)	\$ (909)	\$ (867)	\$ (738)	\$ (611)	\$ (835)	\$ (956)	\$ (1,076)	\$ (10,894)	Line 1 x Line 2
4	Scheduling and Dispatch (S&D)	\$ 141	\$ 153	\$ 122	\$ 215	\$ 73	\$ 121	\$ 208	\$ 97	\$ 73	\$ 138	\$ 235	\$ 248	\$ 1,825	MBP-1, Page 4, Line 5
5	(S&D) Working Capital Allowance Percent	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%	-5.32%		DE 21-109 Attachment ELM-2, Pages 1 and 2, Line 5
6	(S&D) Working Capital Allowance \$	\$ (7)	\$ (8)	\$ (7)	\$ (11)	\$ (4)	\$ (6)	\$ (11)	\$ (5)	\$ (4)	\$ (7)	\$ (13)	\$ (13)	\$ (97)	Line 4 x Line 5
7	Local Network Service (LNS)	\$ 2,236	\$ 2,148	\$ (5)	\$ (7,836)	\$ 303	\$ 2,216	\$ 2,482	\$ 2,087	\$ 1,843	\$ (18,941)	\$ 2,633	\$ 2,942	\$ (7,894)	MBP-1, Page 4, Line 7
8	(LNS) Working Capital Allowance Percent	-35.99%	-35.99%	-35.99%	-35.99%	-35.99%	-35.99%	-35.99%	-35.99%	-35.99%	-35.99%	-35.99%	-35.99%		DE 21-109 Attachment ELM-2, Pages 1 and 2, Line 8
9	(LNS) Working Capital Allowance \$	\$ (805)	\$ (773)	\$ 2	\$ 2,820	\$ (109)	\$ (797)	\$ (893)	\$ (751)	\$ (663)	\$ 6,818	\$ (948)	\$ (1,059)	\$ 2,841	Line 7 x Line 8
10	Reliability	\$ 819	\$ 723	\$ 1,284	\$ 1,785	\$ 538	\$ 778	\$ 685	\$ 633	\$ 537	\$ 659	\$ 658	\$ 658	\$ 9,758	MBP-1, Page 4, Line 9
11	(Reliability) Working Capital Allowance Percent	-5.31%	-5.31%	-5.31%	-5.31%	-5.31%	-5.31%	-5.31%	-5.31%	-5.31%	-5.31%	-5.31%	-5.31%		DE 21-109 Attachment ELM-2, Pages 1 and 2, Line 11
12	(Reliability) Working Capital Allowance \$	\$ (43)	\$ (38)	\$ (68)	\$ (95)	\$ (29)	\$ (41)	\$ (36)	\$ (34)	\$ (29)	\$ (35)	\$ (35)	\$ (35)	\$ (518)	Line 10 x Line 11
13	Hydro-Quebec (HQ) Support Costs	\$ 201	\$ 188	\$ 218	\$ 11	\$ 402	\$ 177	\$ 174	\$ 237	\$ 153	\$ (150)	\$ 271	\$ 271	\$ 2,153	MBP-1, Page 4, Line 13
14	(HQ Support Costs) Working Capital Allowance Percent	12.24%	12.24%	12.24%	12.24%	12.24%	12.24%	12.24%	12.24%	12.24%	12.24%	12.24%	12.24%		DE 21-109 Attachment ELM-2, Pages 1 and 2, Line 14
15	(HQ Support Costs) Working Capital Allowance \$	\$ 25	\$ 23	\$ 27	\$ 1	\$ 49	\$ 22	\$ 21	\$ 29	\$ 19	\$ (18)	\$ 33	\$ 33	\$ 264	Line 13 x Line 14
16	Hydro-Quebec Interconnection Capacity Credits (HQICC)	\$ (470)	\$ (472)	\$ (471)	\$ (471)	\$ (476)	\$ (450)	\$ (8)	\$ (470)	\$ (1,395)	\$ (14)	\$ (400)	\$ (400)	\$ (5,496)	MBP-1, Page 4, Line 11
17	(HQ ICC) Working Capital Allowance Percent	-5.35%	-5.35%	-5.35%	-5.35%	-5.35%	-5.35%	-5.35%	-5.35%	-5.35%	-5.35%	-5.35%	-5.35%		DE 21-109 Attachment ELM-2, Pages 1 and 2, Line 17
18	(HQ ICC) Working Capital Allowance \$	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 24	\$ 0	\$ 25	\$ 75	\$ 1	\$ 21	\$ 21	\$ 294	Line 16 x Line 17
19	Monthly Working Capital Allowance \$	\$ (1,766)	\$ (1,854)	\$ (830)	\$ 1,275	\$ (650)	\$ (1,708)	\$ (1,786)	\$ (1,474)	\$ (1,213)	\$ 5,923	\$ (1,897)	\$ (2,129)	\$ (8,111)	Line 3 + Line 6 + Line 9 + Line 12 + Line 15 + Line 18
20	Rate of Return	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%		Authorized Return per DE 19-057 including tax gross up
21	Monthly Return on Working Capital	\$ (155)	\$ (162)	\$ (73)	\$ 112	\$ (57)	\$ (149)	\$ (156)	\$ (129)	\$ (106)	\$ 518	\$ (166)	\$ (186)	\$ (710)	Line 19 x Line 20

**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY**  
**Retail Transmission Cash Working Capital Requirement**  
**Actual for the 12 Months Ending July 31, 2021**  
**Monthly Working Capital Allowance Calculation**  
**(\$ in 000s)**

Line	Retail Transmission Cost	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	12 Month Total	Attachment/Reference
1	Regional Network Service (RNS)	\$ 18,452	\$ 17,546	\$ 14,012	\$ 11,313	\$ 12,898	\$ 13,897	\$ 13,427	\$ 13,484	\$ 13,166	\$ 10,731	\$ 15,298	\$ 20,504	\$ 174,729	MBP-1, Page 5, Line 5
2	(RNS) Working Capital Allowance Percent	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%		DE 20-085 Attachment ELM-2, Page 1, Line 2
3	(RNS) Working Capital Allowance \$	\$ (997)	\$ (948)	\$ (757)	\$ (611)	\$ (697)	\$ (751)	\$ (725)	\$ (729)	\$ (711)	\$ (580)	\$ (827)	\$ (1,108)	\$ (9,440)	Line 1 x Line 2
4	Scheduling and Dispatch (S&D)	\$ 249	\$ 237	\$ 189	\$ 153	\$ 174	\$ 112	\$ 112	\$ 107	\$ 105	\$ 88	\$ 111	\$ 156	\$ 1,794	MBP-1, Page 5, Line 7
5	(S&D) Working Capital Allowance Percent	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%	-5.40%		DE 20-085 Attachment ELM-2, Page 1, Line 4
6	(S&D) Working Capital Allowance \$	\$ (13)	\$ (13)	\$ (10)	\$ (8)	\$ (9)	\$ (6)	\$ (6)	\$ (6)	\$ (6)	\$ (5)	\$ (6)	\$ (8)	\$ (97)	Line 4 x Line 5
7	Local Network Service (LNS)	\$ 2,263	\$ 2,258	\$ 2,271	\$ 2,248	\$ 2,083	\$ 2,341	\$ 2,285	\$ 2,294	\$ 2,331	\$ 10,004	\$ 2,256	\$ 2,322	\$ 34,956	MBP-1, Page 5, Line 9
8	(LNS) Working Capital Allowance Percent	13.14%	13.14%	13.14%	13.14%	13.14%	13.14%	13.14%	13.14%	13.14%	13.14%	13.14%	13.14%		DE 20-085 Attachment ELM-2, Page 1, Line 6
9	(LNS) Working Capital Allowance \$	\$ 297	\$ 297	\$ 298	\$ 295	\$ 274	\$ 308	\$ 300	\$ 301	\$ 306	\$ 1,314	\$ 296	\$ 305	\$ 4,593	Line 7 x Line 8
10	Reliability	\$ 533	\$ 602	\$ 582	\$ 555	\$ 475	\$ 591	\$ 621	\$ 631	\$ 641	\$ 618	\$ 602	\$ 689	\$ 7,139	MBP-1, Page 5, Line 11
11	(Reliability) Working Capital Allowance Percent	-5.43%	-5.43%	-5.43%	-5.43%	-5.43%	-5.43%	-5.43%	-5.43%	-5.43%	-5.43%	-5.43%	-5.43%		DE 20-085 Attachment ELM-2, Page 1, Line 8
12	(Reliability) Working Capital Allowance \$	\$ (29)	\$ (33)	\$ (32)	\$ (30)	\$ (26)	\$ (32)	\$ (34)	\$ (34)	\$ (35)	\$ (34)	\$ (33)	\$ (37)	\$ (388)	Line 10 x Line 11
13	Hydro-Quebec Support Costs	\$ 368	\$ 312	\$ 334	\$ 205	\$ 236	\$ 270	\$ 210	\$ 212	\$ 222	\$ 241	\$ 237	\$ 239	\$ 3,088	MBP-1, Page 5, Line 15
14	(HQ Support Costs) Working Capital Allowance Percent	12.32%	12.32%	12.32%	12.32%	12.32%	12.32%	12.32%	12.32%	12.32%	12.32%	12.32%	12.32%		DE 20-085 Attachment ELM-2, Page 1, Line 12
15	(HQ Support Costs) Working Capital Allowance \$	\$ 45	\$ 38	\$ 41	\$ 25	\$ 29	\$ 33	\$ 26	\$ 26	\$ 27	\$ 30	\$ 29	\$ 29	\$ 380	Line 13 x Line 14
16	Hydro-Quebec Interconnection Capacity Credits	\$ (578)	\$ (576)	\$ (584)	\$ (567)	\$ (583)	\$ (577)	\$ (573)	\$ (579)	\$ (578)	\$ (585)	\$ (585)	\$ (355)	\$ (6,720)	MBP-1, Page 5, Line 13
17	(HQ ICC) Working Capital Allowance Percent	-5.41%	-5.41%	-5.41%	-5.41%	-5.41%	-5.41%	-5.41%	-5.41%	-5.41%	-5.41%	-5.41%	-5.41%		DE 20-085 Attachment ELM-2, Page 1, Line 10
18	(HQ ICC) Working Capital Allowance \$	\$ 31	\$ 31	\$ 32	\$ 31	\$ 32	\$ 31	\$ 31	\$ 31	\$ 31	\$ 32	\$ 32	\$ 19	\$ 364	Line 16 x Line 17
19	Monthly Working Capital Allowance	\$ (665)	\$ (627)	\$ (428)	\$ (298)	\$ (398)	\$ (417)	\$ (408)	\$ (410)	\$ (387)	\$ 758	\$ (508)	\$ (800)	\$ (4,588)	Line 3 + Line 6 + Line 9 + Line 12 + Line 15 + Line 18
20	Rate of Return	9.40%	9.40%	9.40%	9.40%	9.40%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%		Authorized Return per DE 09-035/19-057 including tax gross up
21	Monthly Return on Working Capital	\$ (63)	\$ (59)	\$ (40)	\$ (28)	\$ (37)	\$ (36)	\$ (36)	\$ (36)	\$ (34)	\$ 66	\$ (44)	\$ (70)	\$ (417)	Line 19 x Line 20

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**Public Service Company of New Hampshire d/b/a Eversource Energy**  
**Retail Transmission Cash Working Capital Requirement**  
**Year Ending December 31, 2021**

Line	Components	Revenue Lag days (A)	Cost Lead Days (B)	Net Lag Days (C) = (A) - (B)	Net Lag % (D) = (C) / 365	Total Expense (E)	Cash WC Requirement (F) = (D) x (E)
1	RNS	47.8	62.9	(15.2)	-4.15%	\$ 192,614,552	\$ (7,997,013)
2	S&D	47.8	62.9	(15.2)	-4.15%	1,495,692	(62,138)
3	LNS	47.8	104.8	(57.0)	-15.63%	21,088,986	(3,296,058)
4	Reliability	47.8	63.0	(15.2)	-4.17%	9,541,644	(398,253)
5	HQ Expense	47.8	57.2	(9.4)	-2.58%	2,350,493	(60,564)
6	Hydro-Quebec Interconnection Capacity Credits	47.8	62.7	(14.9)	-4.09%	(6,190,466)	252,974
7	Total / Average	47.8	66.8	(19.0)	-5.20%	\$ 227,091,367	\$ (11,814,027)

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**Public Service Company of New Hampshire d/b/a Eversource Energy**  
**Retail Transmission Cash Working Capital Requirement**  
**Year Ending December 31, 2021**  
**Revenue Lag**

<b>Line</b>	<b>Components</b>	<b>Total</b>	<b>Attachment/Reference</b>
1	Average Accounts Receivable Balance	\$ 18,635,986	MBP-2, Page 6, Line 14
2	Annual Transmission Revenue	\$ 218,881,635	MBP-1, Page 4, Line 2 (Aug 21 to Dec 21) + Page 5, Line 2 (Jan 21 to Jul 21)
3	Average daily revenue	\$ 599,676	Line 2 / 365
4	Collection lag (days)	31.08	Line 1 / Line 3
5	Meter reading lag	15.21	(365/12)/2
6	Billing lag	<u>1.48</u>	MBP-2, Page 7, Line 13
7	Retail revenue lag (days)	<u><u>47.77</u></u>	Line 4 + Line 5 + Line 6

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**Public Service Company of New Hampshire d/b/a Eversource Energy**  
**Retail Transmission Cash Working Capital Requirement**  
**Year Ending December 31, 2021**  
**Monthly Accounts Receivable Balances**

<b>Line</b>	<b>Date</b>	<b>AR Balance</b>
1	January 2021	20,889,697
2	February 2021	20,854,975
3	March 2021	18,898,403
4	April 2021	17,604,632
5	May 2021	17,549,104
6	June 2021	18,970,806
7	July 2021	19,318,329
8	August 2021	18,814,923
9	September 2021	20,538,271
10	October 2021	16,571,362
11	November 2021	16,294,918
12	December 2021	17,326,416
13	Total	<u>\$ 223,631,835</u>
14	Average	<u><u>\$ 18,635,986</u></u>

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**Public Service Company of New Hampshire d/b/a Eversource Energy**  
**Retail Transmission Cash Working Capital Requirement**  
**Year Ending December 31, 2021**  
**Billing Lag**

<b>Line No.</b>	<b>Month</b>	<b>Billing Days</b>	<b>Accounts Receivable Balance</b>	<b>Month Weight</b>	<b>Weighted Billing Days</b>
	(A)	(B)	(C)	(D)	(E) = (B)*(D)
1	January	1.48	20,889,697	0.09	0.14
2	February	1.54	20,854,975	0.09	0.14
3	March	1.42	18,898,403	0.08	0.12
4	April	1.40	17,604,632	0.08	0.11
5	May	1.58	17,549,104	0.08	0.12
6	June	1.40	18,970,806	0.08	0.12
7	July	1.45	19,318,329	0.09	0.13
8	August	1.42	18,814,923	0.08	0.12
9	September	1.50	20,538,271	0.09	0.14
10	October	1.58	16,571,362	0.07	0.12
11	November	1.47	16,294,918	0.07	0.11
12	December	1.58	17,326,416	0.08	0.12
13			<u>\$ 223,631,835</u>	Lead Lag Days	<u>1.48</u>

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**Public Service Company of New Hampshire d/b/a Eversource Energy**  
**Retail Transmission Cash Working Capital Requirement**  
**Year Ending December 31, 2021**  
**RNS**

<b>Line</b>	<b>Month</b>	<b>Beginning of Service Period</b>	<b>End of Service Period</b>	<b>Midpoint of Service Period</b>	<b>Payment Date</b>	<b>Lead Days</b>	<b>Payment Amount</b>	<b>Dollar Weighted Days</b>
		(A)	(B)	(C)	(D)	(E) = (D) - (C)	(F)	(G) = (E) * (F)
1	January	11/1/2020	11/30/2020	11/15/2020	1/15/2021	60.5	\$ 13,897,391	\$ 840,792,133
2	February	12/1/2020	12/31/2020	12/16/2020	2/22/2021	68.0	13,426,942	913,032,073
3	March	1/1/2021	1/31/2021	1/16/2021	3/19/2021	62.0	13,484,044	836,010,706
4	April	2/1/2021	2/28/2021	2/14/2021	4/16/2021	60.5	13,165,963	796,540,740
5	May	3/1/2021	3/31/2021	3/16/2021	5/14/2021	59.0	10,731,392	633,152,108
6	June	4/1/2021	4/30/2021	4/15/2021	6/18/2021	63.5	15,298,233	971,437,815
7	July	5/1/2021	5/31/2021	5/16/2021	7/16/2021	61.0	20,503,794	1,250,731,458
8	August	6/1/2021	6/30/2021	6/15/2021	8/20/2021	65.5	18,048,705	1,182,190,198
9	September	7/1/2021	7/31/2021	7/16/2021	9/17/2021	63.0	20,344,659	1,281,713,518
10	October	8/1/2021	8/31/2021	8/16/2021	10/18/2021	63.0	15,204,199	957,864,527
11	November	9/1/2021	9/30/2021	9/15/2021	11/19/2021	64.5	27,552,363	1,777,127,429
12	December	10/1/2021	10/31/2021	10/16/2021	12/17/2021	62.0	10,956,867	679,325,750
13	Average					62.9	\$ 192,614,552	\$ 12,119,918,454

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**Public Service Company of New Hampshire d/b/a Eversource Energy**  
**Retail Transmission Cash Working Capital Requirement**  
**Year Ending December 31, 2021**  
**Scheduling & Dispatch**

Line	Month	Beginning of Service Period (A)	End of Service Period (B)	Midpoint of Service Period (C)	Payment Date (D)	Lead Days (E) = (D) - (C)	Payment Amount (F)	Dollar Weighted Days (G) = (E) * (F)
1	January	11/1/2020	11/30/2020	11/15/2020	1/15/2021	60.5	\$ 112,185	\$ 6,787,217
2	February	12/1/2020	12/31/2020	12/16/2020	2/22/2021	68.0	111,530	7,584,008
3	March	1/1/2021	1/31/2021	1/16/2021	3/19/2021	62.0	107,469	6,663,107
4	April	2/1/2021	2/28/2021	2/14/2021	4/16/2021	60.5	105,332	6,372,578
5	May	3/1/2021	3/31/2021	3/16/2021	5/14/2021	59.0	87,838	5,182,459
6	June	4/1/2021	4/30/2021	4/15/2021	6/18/2021	63.5	111,096	7,054,620
7	July	5/1/2021	5/31/2021	5/16/2021	7/16/2021	61.0	156,181	9,527,011
8	August	6/1/2021	6/30/2021	6/15/2021	8/20/2021	65.5	140,555	9,206,360
9	September	7/1/2021	7/31/2021	7/16/2021	9/17/2021	63.0	152,857	9,629,974
10	October	8/1/2021	8/31/2021	8/16/2021	10/18/2021	63.0	122,404	7,711,473
11	November	9/1/2021	9/30/2021	9/15/2021	11/19/2021	64.5	215,239	13,882,894
12	December	10/1/2021	10/31/2021	10/16/2021	12/17/2021	62.0	73,006	4,526,374
13	Average					62.9	\$ 1,495,692	\$ 94,128,075



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Retail Transmission Cash Working Capital Requirement  
Year Ending December 31, 2021  
LNS

Line	Month	Description	Beginning of Service Period (A)	End of Service Period (B)	Midpoint of Service Period (C)	Payment Date (D)	Lead Days (E) = (D) - (C)	Payment Amount (F)	Dollar Weighted Days (G) = (E) * (F)
1	December	Vermont Electric Power Co	12/1/2020	12/31/2020	12/16/2020	1/26/2021	41.0	\$ 147,983	\$ 6,067,310
2	January	Vermont Electric Power Co	1/1/2021	1/31/2021	1/16/2021	2/23/2021	38.0	67,178	2,552,769
3	February	Vermont Electric Power Co	2/1/2021	2/28/2021	2/14/2021	3/23/2021	36.5	15,497	565,648
4	March	Vermont Electric Power Co	3/1/2021	3/31/2021	3/16/2021	4/23/2021	38.0	47,879	1,819,415
5	April	Vermont Electric Power Co	4/1/2021	4/30/2021	4/15/2021	5/25/2021	39.5	82,901	3,274,591
6	May	Vermont Electric Power Co	5/1/2021	5/31/2021	5/16/2021	6/22/2021	37.0	185,340	6,857,569
7	June	Vermont Electric Power Co	6/1/2021	6/30/2021	6/15/2021	7/26/2021	40.5	89,789	3,636,466
8	July	Vermont Electric Power Co	7/1/2021	7/31/2021	7/16/2021	8/23/2021	38.0	57,158	2,171,985
9	November	Vermont Electric Power Co	11/1/2021	11/30/2021	11/15/2021	12/27/2021	41.5	41,264	1,712,471
10	Subtotal	Vermont Electric Power Co					39.0	\$ 734,990	\$ 28,658,223
11	October	Green Mountain Power Corp.	10/1/2020	10/31/2020	10/16/2020	1/13/2021	89.0	\$ 40,185	\$ 3,576,442
12	November	Green Mountain Power Corp.	11/1/2020	11/30/2020	11/15/2020	1/29/2021	74.5	46,752	3,483,008
13	December	Green Mountain Power Corp.	12/1/2020	12/31/2020	12/16/2020	1/29/2021	44.0	91,066	4,006,904
14	December	Green Mountain Power Corp.	12/1/2020	12/31/2020	12/16/2020	2/26/2021	72.0	46,055	3,315,944
15	January	Green Mountain Power Corp.	1/1/2021	1/31/2021	1/16/2021	2/26/2021	41.0	85,545	3,507,345
16	January	Green Mountain Power Corp.	1/1/2021	1/31/2021	1/16/2021	3/31/2021	74.0	35,381	2,618,184
17	February	Green Mountain Power Corp.	2/1/2021	2/28/2021	2/14/2021	3/29/2021	42.5	83,496	3,548,580
18	February	Green Mountain Power Corp.	2/1/2021	2/28/2021	2/14/2021	4/30/2021	74.5	35,520	2,646,207
19	March	Green Mountain Power Corp.	3/1/2021	3/31/2021	3/16/2021	4/30/2021	45.0	86,707	3,901,815
20	March	Green Mountain Power Corp.	3/1/2021	3/31/2021	3/16/2021	5/28/2021	73.0	38,708	2,825,712
21	April	Green Mountain Power Corp.	4/1/2021	4/30/2021	4/15/2021	5/28/2021	42.5	82,452	3,504,210
22	April	Green Mountain Power Corp.	4/1/2021	4/30/2021	4/15/2021	6/30/2021	75.5	33,401	2,521,785
23	May	Green Mountain Power Corp.	5/1/2021	5/31/2021	5/16/2021	6/29/2021	44.0	85,193	3,748,492
24	May	Green Mountain Power Corp.	5/1/2021	5/31/2021	5/16/2021	7/30/2021	75.0	40,789	3,059,144
25	June	Green Mountain Power Corp.	6/1/2021	6/30/2021	6/15/2021	7/30/2021	44.5	85,181	3,790,555
26	June	Green Mountain Power Corp.	6/1/2021	6/30/2021	6/15/2021	8/31/2021	76.5	58,228	4,454,431
27	July	Green Mountain Power Corp.	7/1/2021	7/31/2021	7/16/2021	8/31/2021	46.0	84,141	3,870,486
28	July	Green Mountain Power Corp.	7/1/2021	7/31/2021	7/16/2021	10/7/2021	83.0	42,007	3,486,562
29	August	Green Mountain Power Corp.	8/1/2021	8/31/2021	8/16/2021	9/30/2021	45.0	84,823	3,817,035
30	August	Green Mountain Power Corp.	8/1/2021	8/31/2021	8/16/2021	11/5/2021	81.0	51,852	4,200,006
31	September	Green Mountain Power Corp.	9/1/2021	9/30/2021	9/15/2021	10/29/2021	43.5	83,002	3,610,587
32	September	Green Mountain Power Corp.	9/1/2021	9/30/2021	9/15/2021	12/8/2021	83.5	35,209	2,939,976
33	October	Green Mountain Power Corp.	10/1/2021	10/31/2021	10/16/2021	11/29/2021	44.0	82,623	3,635,412
34	October	Green Mountain Power Corp.	10/1/2021	10/31/2021	10/16/2021	12/31/2021	76.0	36,002	2,736,135
35	November	Green Mountain Power Corp.	11/1/2021	11/30/2021	11/15/2021	12/31/2021	45.5	83,567	3,802,299
36	Subtotal	Green Mountain Power Corp.					55.6	\$ 1,557,883	\$ 86,607,255
37	December	Intercompany	12/1/2020	12/31/2020	12/16/2020	1/25/2021	40.0	\$ 2,131,798	\$ 85,271,920
38	January	Intercompany	1/1/2021	1/31/2021	1/16/2021	2/27/2021	42.0	2,117,508	88,935,336
39	February	Intercompany	2/1/2021	2/28/2021	2/14/2021	3/27/2021	40.5	2,124,848	86,056,344
40	March	Intercompany	3/1/2021	3/31/2021	3/16/2021	5/1/2021	46.0	2,114,668	97,274,728
41	April	Intercompany	4/1/2021	4/30/2021	4/15/2021	6/4/2021	49.5	2,086,773	103,295,264
42	May	Intercompany - Current Month	5/1/2021	5/31/2021	5/16/2021	6/21/2021	36.0	2,133,644	76,811,184
43	May	Intercompany - PY True-Up	1/1/2020	12/31/2020	7/1/2020	7/7/2021	370.5	7,656,469	2,836,721,765
44	June	Intercompany	6/1/2021	6/30/2021	6/15/2021	7/25/2021	39.5	2,116,126	83,586,977
45	July	Intercompany	7/1/2021	7/31/2021	7/16/2021	8/25/2021	40.0	2,103,011	84,120,440
46	August	Intercompany	8/1/2021	8/31/2021	8/16/2021	10/7/2021	52.0	2,113,777	109,916,404
47	September	Intercompany	9/1/2021	9/30/2021	9/15/2021	-	-	-	-
48	October	Intercompany	10/1/2021	10/31/2021	10/16/2021	-	-	-	-
50	November	Intercompany	11/1/2021	11/30/2021	11/15/2021	-	-	-	-
50	November	Intercompany - One-Time Refund/True-Up	1/1/2021	9/30/2021	5/16/2021	11/29/2021	197.0	(7,902,509)	(1,556,794,273)
51	Subtotal	Intercompany					111.5	\$ 18,796,113	\$ 2,095,196,088
52		New England Power					-	\$ -	\$ -
53		New England Power					-	-	-
54	Subtotal	New England Power					-	\$ -	\$ -
55	Average						104.8	\$ 21,088,986	\$ 2,210,461,567

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**Public Service Company of New Hampshire d/b/a Eversource Energy**  
**Retail Transmission Cash Working Capital Requirement**  
**Year Ending December 31, 2021**  
**Reliability**

Line	Month	Beginning of Service Period	End of Service Period	Midpoint of Service Period	Payment Date	Lead Days	Payment Amount	Dollar Weighted Days
		(A)	(B)	(C)	(D)	(E) = (D) - (C)	(F)	(G) = (E) * (F)
1	November	11/1/2020	11/30/2020	11/15/2020	1/15/2021	60.5	\$ 590,893	\$ 35,749,013
2	December	12/1/2020	12/31/2020	12/16/2020	2/22/2021	68.0	621,240	42,244,344
5	January	1/1/2021	1/31/2021	1/16/2021	3/19/2021	62.0	631,064	39,125,953
6	February	2/1/2021	2/28/2021	2/14/2021	4/16/2021	60.5	641,004	38,780,738
7	March	3/1/2021	3/31/2021	3/16/2021	5/14/2021	59.0	617,946	36,458,839
8	April	4/1/2021	4/30/2021	4/15/2021	6/18/2021	63.5	601,815	38,215,242
9	May	5/1/2021	5/31/2021	5/16/2021	7/16/2021	61.0	689,139	42,037,502
10	June	6/1/2021	6/30/2021	6/15/2021	8/20/2021	65.5	819,422	53,672,129
11	July	7/1/2021	7/31/2021	7/16/2021	9/17/2021	63.0	723,027	45,550,729
12	August	8/1/2021	8/31/2021	8/16/2021	10/18/2021	63.0	1,283,681	80,871,900
12	September	9/1/2021	9/30/2021	9/15/2021	11/19/2021	64.5	1,784,608	115,107,222
12	October	10/1/2021	10/31/2021	10/16/2021	12/17/2021	62.0	537,804	33,343,835
13	Average					63.0	\$ 9,541,644	\$ 601,157,445

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**Public Service Company of New Hampshire d/b/a Eversource Energy**  
**Retail Transmission Cash Working Capital Requirement**  
**Year Ending December 31, 2021**  
**HQ Expense**

Line	Month	Description	Beginning of Service Period (A)	End of Service Period (B)	Midpoint of Service Period (C)	Payment Date (D)	Lead Days (E) = (D)-(C)	Payment Amount (F)	Dollar Weighted Days (G) = (E)*(F)
1	November	New England Hydro Transmission - HQ Phase II	11/1/2020	11/30/2020	11/15/2020	1/14/2021	59.5	\$ 107,478	\$ 6,394,929
2	November	New England Hydro Transmission - HQ Phase II	11/1/2020	11/30/2020	11/15/2020	1/15/2021	60.5	146,124	8,840,521
3	December	New England Hydro Transmission - HQ Phase II	12/1/2020	12/31/2020	12/16/2020	2/16/2021	62.0	62,385	3,867,886
4	December	New England Hydro Transmission - HQ Phase II	12/1/2020	12/31/2020	12/16/2020	2/16/2021	62.0	141,808	8,792,110
5	January	New England Hydro Transmission - HQ Phase II	1/1/2021	1/31/2021	1/16/2021	3/15/2021	58.0	120,868	7,010,343
6	January	New England Hydro Transmission - HQ Phase II	1/1/2021	1/31/2021	1/16/2021	3/15/2021	58.0	75,475	4,377,541
7	February	New England Hydro Transmission - HQ Phase II	2/1/2021	2/28/2021	2/14/2021	4/15/2021	59.5	123,228	7,332,050
8	February	New England Hydro Transmission - HQ Phase II	2/1/2021	2/28/2021	2/14/2021	4/15/2021	59.5	95,957	5,709,428
9	March	New England Hydro Transmission - HQ Phase II	3/1/2021	3/31/2021	3/16/2021	5/13/2021	58.0	132,269	7,671,586
10	March	New England Hydro Transmission - HQ Phase II	3/1/2021	3/31/2021	3/16/2021	5/14/2021	59.0	88,794	5,238,830
11	April	New England Hydro Transmission - HQ Phase II	4/1/2021	4/30/2021	4/15/2021	6/15/2021	60.5	115,715	7,000,731
12	April	New England Hydro Transmission - HQ Phase II	4/1/2021	4/30/2021	4/15/2021	6/15/2021	60.5	110,920	6,710,681
13	July	New England Hydro Transmission - HQ Phase II	7/1/2021	7/31/2021	7/16/2021	9/1/2021	47.0	100,946	4,744,475
14	July	New England Hydro Transmission - HQ Phase II	7/1/2021	7/31/2021	7/16/2021	9/1/2021	47.0	83,978	3,946,948
15	August	New England Hydro Transmission - HQ Phase II	8/1/2021	8/31/2021	8/16/2021	10/15/2021	60.0	91,646	5,498,763
16	August	New England Hydro Transmission - HQ Phase II	8/1/2021	8/31/2021	8/16/2021	10/15/2021	60.0	83,543	5,012,597
17	September	New England Hydro Transmission - HQ Phase II	9/1/2021	9/30/2021	9/15/2021	11/15/2021	60.5	126,035	7,625,088
18	September	New England Hydro Transmission - HQ Phase II	9/1/2021	9/30/2021	9/15/2021	11/15/2021	60.5	77,863	4,710,738
19	October	New England Hydro Transmission - HQ Phase II	10/1/2021	10/31/2021	10/16/2021	12/15/2021	60.0	139,143	8,348,582
20	October	New England Hydro Transmission - HQ Phase II	10/1/2021	10/31/2021	10/16/2021	12/15/2021	60.0	117,023	7,021,364
21	Subtotal	New England Hydro Transmission - HQ Phase II					58.8	\$ 2,141,197	\$ 125,855,191
22	January	Vermont Electric Transmission Co.	1/1/2021	1/31/2021	1/16/2021	2/16/2021	31.0	10,787	334,406
23	February	Vermont Electric Transmission Co.	2/1/2021	2/28/2021	2/14/2021	2/26/2021	11.5	770	8,859
24	March	Vermont Electric Transmission Co.	3/1/2021	3/31/2021	3/16/2021	3/18/2021	2.0	10,753	21,505
25	April	Vermont Electric Transmission Co.	4/1/2021	4/30/2021	4/15/2021	4/20/2021	4.5	10,756	48,403
26	May	Vermont Electric Transmission Co.	5/1/2021	5/31/2021	5/16/2021	5/28/2021	12.0	15,955	191,460
27	June	Vermont Electric Transmission Co.	7/1/2021	7/31/2021	7/16/2021	7/28/2021	12.0	10,249	122,988
28	July	Vermont Electric Transmission Co.	7/1/2021	7/31/2021	7/16/2021	8/31/2021	46.0	16,672	766,892
29	August	Vermont Electric Transmission Co.	8/1/2021	8/31/2021	8/16/2021	9/24/2021	39.0	12,367	482,299
30	September	Vermont Electric Transmission Co.	9/1/2021	9/30/2021	9/15/2021	10/25/2021	39.5	10,764	425,162
31	October	Vermont Electric Transmission Co.	10/1/2021	10/31/2021	10/16/2021	11/26/2021	41.0	9,906	406,161
32	November	Vermont Electric Transmission Co.	11/1/2021	11/30/2021	11/15/2021	12/28/2021	42.5	9,971	423,782
33	Subtotal	Vermont Electric Transmission Co.					27.2	\$ 118,950	\$ 3,231,916
34	November	NE Electric Transmission - HQ Phase I	11/1/2020	11/30/2020	11/15/2020	1/14/2021	59.5	9,322	554,687
35	December	NE Electric Transmission - HQ Phase I	12/1/2020	12/31/2020	12/16/2020	2/16/2021	62.0	8,619	534,373
36	January	NE Electric Transmission - HQ Phase I	1/1/2021	1/31/2021	1/16/2021	3/15/2021	58.0	8,871	514,495
37	February	NE Electric Transmission - HQ Phase I	2/1/2021	2/28/2021	2/14/2021	4/15/2021	59.5	10,338	615,120
38	March	NE Electric Transmission - HQ Phase I	3/1/2021	3/31/2021	3/16/2021	5/13/2021	58.0	8,197	475,423
39	April	NE Electric Transmission - HQ Phase I	4/1/2021	4/30/2021	4/15/2021	6/15/2021	60.5	9,429	570,454
40	July	NE Electric Transmission - HQ Phase I	7/1/2021	7/31/2021	7/16/2021	9/1/2021	47.0	7,990	375,516
41	August	NE Electric Transmission - HQ Phase I	8/1/2021	8/31/2021	8/16/2021	10/15/2021	60.0	9,497	569,794
42	September	NE Electric Transmission - HQ Phase I	9/1/2021	9/30/2021	9/15/2021	11/15/2021	60.5	9,159	554,132
43	October	NE Electric Transmission - HQ Phase I	10/1/2021	10/31/2021	10/16/2021	12/15/2021	60.0	8,924	535,444
44	Subtotal	NE Electric Transmission - HQ Phase I					58.7	\$ 90,346	\$ 5,299,439
45	Average						57.2	\$ 2,350,493	\$ 134,386,545

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Attachment MBP-2

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**Public Service Company of New Hampshire d/b/a Eversource Energy**  
**Retail Transmission Cash Working Capital Requirement**  
**Year Ending December 31, 2021**  
**HQ ICC**

Line	Month	Beginning of Service Period (A)	End of Service Period (B)	Midpoint of Service Period (C)	Payment Date (D)	Lead Days (E) = (D) - (C)	Payment Amount (F)	Dollar Weighted Days (G) = (E) * (F)
1	November	11/1/2020	11/30/2020	11/15/2020	1/15/2021	60.5	\$ (576,541)	\$ (34,880,757)
3	December	12/1/2020	12/31/2020	12/16/2020	2/22/2021	68.0	(572,901)	(38,957,273)
4	January	1/1/2021	1/31/2021	1/16/2021	3/19/2021	62.0	(579,090)	(35,903,566)
5	February	2/1/2021	2/28/2021	2/14/2021	4/16/2021	60.5	(577,627)	(34,946,424)
6	March	3/1/2021	3/31/2021	3/16/2021	5/14/2021	59.0	(585,306)	(34,533,046)
7	April	4/1/2021	4/30/2021	4/15/2021	6/18/2021	63.5	(585,241)	(37,162,779)
8	May	5/1/2021	5/31/2021	5/16/2021	7/16/2021	61.0	(354,542)	(21,627,077)
9	June	6/1/2021	6/30/2021	6/15/2021	8/20/2021	65.5	(470,236)	(30,800,448)
10	July	7/1/2021	7/31/2021	7/16/2021	9/17/2021	63.0	(471,563)	(29,708,466)
11	August	8/1/2021	8/31/2021	8/16/2021	10/18/2021	63.0	(470,951)	(29,669,887)
12	September	9/1/2021	9/30/2021	9/15/2021	11/19/2021	64.5	(470,928)	(30,374,879)
12	October	10/1/2021	10/31/2021	10/16/2021	12/17/2021	62.0	(475,540)	(29,483,494)
13	Average					62.7	\$ (6,190,466)	\$ (388,048,096)

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**STATE OF NEW HAMPSHIRE**  
**BEFORE THE NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**  
**DIRECT TESTIMONY OF EDWARD A. DAVIS**  
**PETITION OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE**  
**d/b/a EVERSOURCE ENERGY**  
**REQUEST FOR TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM)**  
**RATE CHANGE**

**June 20, 2022**

**Docket No. DE 22-034**

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

2 A. My name is Edward A. Davis. I am employed by Eversource Energy Service  
3 Company as the Director of Rates. My business address is 107 Selden Street,  
4 Berlin, Connecticut.

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

6 A. As the Director of Rates, I am responsible for activities related to rate design, cost  
7 of service and rates administration for Connecticut, Massachusetts and New  
8 Hampshire electric and gas subsidiaries of Eversource Energy, including Public  
9 Service Company of New Hampshire (“Eversource” or the “Company”).

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

11 A. Yes, I have.

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

2    A.     To propose transmission prices effective August 1, 2022 under the TCAM and the  
3           specific rates and charges for transmission based on the TCAM revenue  
4           requirement contained in the attachments to Ms. Paruta's and Mr. Mathews'  
5           testimony.

6    **Q.     Have you calculated specific rates and charges for the TCAM for all rate**  
7           **classes?**

8    A.     Yes. The proposed rates and charges are included in Attachment EAD-1.

9    **Q.     Please describe the TCAM pricing rate design in Attachment EAD-1.**

10   A.     The rates have been calculated as required and approved by the Settlement  
11          Agreement in the Company's recent base distribution rate case in Docket No. DE  
12          19-057. In general, other than Backup Delivery Service Rate B, the Company  
13          adjusts all transmission rates by an equal percentage to achieve the overall average  
14          transmission rate, in this case, 2.179 cents/kWh.

15

16          For Rate B, the Company continues to calculate rates consistent with the terms of  
17          the Settlement Agreement in Docket No. DE 06-028, where transmission costs are  
18          recovered through a demand charge, which splits into two components for rate  
19          calculation purposes: (i) a base component and (ii) an incremental component. To  
20          calculate the base component, a portion of the TCAM costs are allocated to Rate B

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1 based on the class contribution to the Company's demands at the time of the  
2 corresponding monthly system peaks. These costs are reconciled against actual  
3 revenue for the class, with any resulting over- or under-recovery flowing into the  
4 rate calculation. The incremental component of the rate is adjusted by the same  
5 percentage applied to all other rates.

6 **Q. Please describe how the base component of the Rate B demand charge was**  
7 **determined.**

8 A. Please refer to Attachment EAD-2. First, the ratio of average Rate B demands to  
9 average total Company demands at the time of the corresponding monthly system  
10 peaks was calculated. The calculation of that ratio is shown on Attachment EAD-  
11 2, Page 2. The Rate B base component revenue requirement for the forecast period  
12 was determined by multiplying the total TCAM revenue requirement for the  
13 forecast period provided in Ms. Paruta's testimony (see Attachment MBP-1, Page  
14 1, line 16) by this ratio (see Attachment EAD-2, Page 2, lines 12-18). The base  
15 component reconciliation from the prior period was then added to the base  
16 component forecasted revenue requirement to determine the total revenue  
17 requirement, and the base component rates ). The total base component revenue  
18 requirement was then divided by the projected billing demand to produce a Rate B  
19 base component rate of \$2.64 per kW or kVA (see Attachment EAD-2, Page 1,  
20 lines 20-26).

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1   **Q.    How did you calculate the base component reconciliation?**

2    A.    The base component reconciliation calculation is shown on Attachment EAD-2,  
3       Page 3 and was calculated by multiplying the estimated TCAM revenue  
4       requirement for the twelve-month period August 2021 through July 2022 by the  
5       base component ratio for the same period. The base component reconciliation for  
6       the prior period August 2020 through July 2021 was then added to the base  
7       component revenue requirement. The result is shown in Attachment EAD-2, Page  
8       2, line 28. The estimated base component revenue for the period August 2021  
9       through July 2022 was then subtracted from the total base component revenue  
10      requirement to determine the base component reconciliation (in this case, an  
11      under-recovery of \$2,400,697).

12   **Q.    How did you forecast the data to perform the calculation described above?**

13    A.    For the contribution to the monthly system peaks, historical data was used as a  
14      proxy for what will occur in the prospective period because there is no reliable  
15      way to forecast Rate B contributions to peak load. The projected billing demand  
16      for Rate B was based on actual historical data, with adjustments that could  
17      reasonably be anticipated. The total TCAM revenue requirement is based on the  
18      forecast provided in Ms. Paruta's and Mr. Mathews' testimony.



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1   **Q.    How did you calculate all other transmission rates and charges?**

2    A.    Please refer to Attachment EAD-3. The transmission rate calculations were based  
3       on 2018 actual billing determinants. The forecasted TCAM rate of 2.179  
4       cents/kWh provided by Ms. Paruta (see Attachment MBP-1, Page 1, line 13) was  
5       multiplied by 2018 MWh sales to produce the target transmission revenue  
6       (Attachment EAD-3, line 15). The Rate B base component revenue shown on  
7       Attachment EAD-4 was then subtracted from the target transmission revenue  
8       which results in the amount to be recovered from all other customers (Attachment  
9       EAD-3, line 17). Revenue and the resulting rates and charges for all other  
10      customer classes were determined by adjusting all currently-effective revenue and  
11      rates by an equal percentage to result in the amount necessary to recover the  
12      transmission revenue requirement net of the Rate B base amount. The allocation  
13      of transmission revenue to class under this methodology is shown on Attachment  
14      EAD-3, lines 27 to 39.

15   **Q.    Please describe the bill impacts for a Residential customer using 600 kWh per**  
16    **month.**

17    A.    Referring to Attachment EAD-6, a Residential customer using 600 kWh per  
18       month will see a total bill decrease compared with current rates of \$4.12 per month  
19       for the transmission component of service if the customer is taking Default Energy  
20       Service from Eversource. This impact assumes no other rate changes. If the

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1 Commission approves the Company's TCAM proposal, Stranded Cost Recovery  
2 Charge, Regulatory Reconciliation Adjustment, Step 3 Distribution Adjustment  
3 and Energy Service as filed the impact to a Residential customer using 600 kWh  
4 per month would be a total bill decrease of \$3.76 per month for delivery service  
5 only, and overall increase of \$67.63 inclusive of Energy Service.

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

7 A. Yes, it does.

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**TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION**  
**TRANSMISSION RATES PROPOSED FOR EFFECT ON AUGUST 1, 2022**

Rate	Blocks	(A) Current Rates Effective 08/01/2021 (1)	(B) Proposed Rates Effective 08/01/2022 (2)
R	All KWH	\$ 0.03046	\$ 0.02360
Uncontrolled Water Heating	All KWH	\$ 0.02358	\$ 0.01827
Controlled Water Heating	All KWH	\$ 0.02358	\$ 0.01827
R-OTOD	On-peak KWH	\$ 0.03046	\$ 0.02360
	Off-peak KWH	\$ 0.01989	\$ 0.01541
G	Load charge (over 5 KW)	\$ 7.86	\$ 6.09
	First 500 KWH	\$ 0.02840	\$ 0.02201
	Next 1,000 KWH	\$ 0.01068	\$ 0.00828
	All additional KWH	\$ 0.00573	\$ 0.00444
Space Heating	All KWH	\$ 0.02840	\$ 0.02201
G-OTOD	Load charge	\$ 5.18	\$ 4.01
LCS	Radio-controlled option	\$ 0.02358	\$ 0.01827
	8-hour option	\$ 0.02358	\$ 0.01827
	10 or 11-hour option	\$ 0.02358	\$ 0.01827
GV	First 100 KW	\$ 10.52	\$ 8.15
	All additional KW	\$ 10.52	\$ 8.15
LG	Demand charge	\$ 10.36	\$ 8.03
B (3)	Demand charge	\$ 2.37	\$ 3.18
OL, EOL	All KWH	\$ 0.02082	\$ 0.01613

Notes:

- (1) Current rates are based on a retail average transmission rate of 2.758 ¢/KWH.  
 (2) Proposed rates are based on a retail average transmission rate of 2.179 ¢/KWH.  
 (3) The calculation of the Rate B charge is shown on Attachment EAD-4. All other rates have been calculated by adjusting current rates by an equal percentage necessary to recover the remaining transmission revenue requirement.

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**TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION  
RATE B CUSTOMERS**

**Base Component Revenue Requirement**

Total Transmission Revenue Requirement	\$ 166,361,401	MBP-1, Page 1, Line 16
Times Base Component Ratio	<u>0.43853%</u>	EAD-2, Page 2, Line 33
Base Component Forecasted Revenue Requirement	\$ 729,549	Line 14 x Line 16
Base Component Reconciliation	<u>\$ 2,400,697</u>	EAD-2, Page 3, Line 32
Base Component Revenue Requirement	\$ 3,130,245	Line 18 + Line 20
Rate B Projected Billing Demand	<u>1,184,500</u>	
Rate B Base Component per kW or kVA	\$ 2.64	Line 22/Line 24

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**TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION  
RATE B CUSTOMERS**

**Contribution to Coincident System Peak (KW)  
Period Ending 7/31/22**

	Rate B	Total PSNH	Ratio of Rate B to Total PSNH
Aug-21	7,543	1,736,738	
Sep	3,089	1,295,123	
Oct	3,097	1,049,720	
Nov	6,638	1,176,679	
Dec	9,099	1,256,775	
Jan 2022	8,555	1,351,610	
Feb	3,739	1,263,360	
Mar	1,441	1,171,721	
Apr	4,587	993,494	
May	11,417	1,324,480	
Jun <sup>(1)</sup>	7,568	1,509,987	
Jul <sup>(1)</sup>	2,643	1,699,412	
	-		
Average	5,785	1,319,092	0.43853%

<sup>(1)</sup> Estimated data

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**TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION  
RATE B CUSTOMERS**

**Estimated Base Component Reconciliation, 12 months Ending July 31, 2021**

Prior Period Transmission Revenue Requirement:

Retail Transmission Operating Costs	\$ 398,763,931	MBP-1, Page 4, line 11 and Page 5, line 11
(Over)/Underrecovery, 12 month period ending 7/31/2021	(25,059,201)	MBP-1, Page 4, line 19
Return on monthly (over)/underrecovery, 12 month period ending 7/31/2022	33,296	MBP-1, Page 4, line 17 and Page 5, line 21

Prior Period Transmission Revenue Requirement \$ 373,738,026 Sum of Lines 16 to 18

Times Base Component Ratio 0.43853% EAD-2, Page 2, Line 33

Prior Period Base Component Revenue Requirement \$ 1,638,963 Line 20 x Line 22

Base Component Reconciliation for 12-Month Period Ending 7/31/2020 1,385,652 EAD-2, Page 5, line 32

Total Base Component Revenue Requirement \$ 3,024,615 Line 24 + Line 26

Base Component Revenue (actual through May 2021; June and July 2021 estimated) 623,918

Estimated Base Component Reconciliation, 12 months Ending 7/31/2021 \$ 2,400,697 Line 28 - Line 30

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**TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION  
RATE B CUSTOMERS**

**Contribution to Legacy NU System Peak (KW)  
Period Ending 7/31/2021**

	<u>Rate B</u>	<u>Total PSNH</u>	Ratio of Rate B to <u>Total PSNH</u>
Aug-20	12,374	1,631,953	
Sep	3,516	1,305,118	
Oct	4,629	1,052,999	
Nov	5,797	1,200,358	
Dec	8,829	1,294,678	
Jan 2021	7,075	1,248,430	
Feb	3,264	1,254,109	
Mar	1,441	1,224,574	
Apr	4,897	997,686	
May	11,928	1,419,554	
Jun	12,801	1,446,984	
Jul	3,561	1,714,299	
Average	6,676	1,315,895	0.50734%

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**TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION  
RATE B CUSTOMERS**

**Actual Base Component Reconciliation, 12 months Ending July 31, 2021**

Prior Period Transmission Revenue Requirement:

Retail Transmission Operating Costs	\$ 302,289,945	MBP-1, P4, Line 11 & 2021 ELM-1 P4, Line 21
(Over)/Underrecovery, period ending 7/31/2020	11,270,275	2021 ELM-1, P4, Line 21
Return on monthly (over)/underrecovery, period Ending 7/31/2021	97,993	MBP-1, P5, Line 21 & 2021 ELM-1, P4, Line 40

Prior Period Transmission Revenue Requirement

\$ 313,658,213 Sum of Lines 16 to 18

Times Base Component Ratio

0.50734% EAD-2, Page 4, Line 30

Prior Period Base Component Revenue Requirement

\$ 1,591,307 Line 20 x Line 22

Base Component Reconciliation for 12-Month Period Ending 7/31/2020

418,263 2021 JAU-2, P5, Line 32

Total Base Component Revenue Requirement

\$ 2,009,571 Line 24 + Line 26

Actual Base Component Revenue, 12 Month Period Ending 7/31/2021

623,918

Actual Base Component Reconciliation, 12 months Ending 7/31/2021

\$ 1,385,652 Line 28 - Line 30



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**TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION  
ALLOCATION OF AUGUST 1, 2022 TRANSMISSION REVENUE TO CLASS  
BASED ON 2018 BILLING DETERMINANTS**

		Source	
2018 retail billed delivery sales	7,954,422 MWH		
Forecasted TCAM Rate	\$ 0.02179 per KWH	Attachment MBP-1, Page 1, Line 20	
Target transmission revenue	\$ 173,327 (000)	Line 13 x Line 14	
Rate B Base Component Revenue	\$ 3,193 (000)	Attachment EAD-4, Column C, Line 27	
Transmission revenue to be recovered from all other classes	\$ 170,134 (000)	Line 15 - Line 16	

	(1)	(2)	(3)	(4)
	Revenue at 8/1/2021 Rate Level	8/1/2022 Revenue Target	Change Amount	Percent Change
<b>Transmission revenue excluding Rate B Base Component</b>				
Residential Rates R, R-OTOD	\$ 95,938	\$ 74,346	\$ (21,592)	-22.5%
General Service Rates G, G-OTOD	48,295	37,425	(10,869)	-22.5%
Primary General Service Rate GV	44,422	34,424	(9,998)	-22.5%
GV Rate B - incremental component only	25	19	(6)	-22.5%
Large General Service Rate LG	29,237	22,657	(6,580)	-22.5%
LG Rate B - incremental component only	822	637	(185)	-22.5%
Outdoor Lighting Rates OL, EOL	807	625	(182)	-22.5%
<b>Total (Sum of Lines 27 to 37)</b>	<b>\$ 219,546</b>	<b>\$ 170,134</b>	<b>\$ (49,412)</b>	<b>-22.5%</b>
<b>Rate B Base Component</b>				
GV Rate B - base component	\$ 59	\$ 93	\$ 34	58.1%
LG Rate B - base component	1,961	3,099	1,139	58.1%
<b>Total (Line 43 + Line 44)</b>	<b>\$ 2,020</b>	<b>\$ 3,193</b>	<b>\$ 1,173</b>	<b>58.1%</b>
<b>Total, all customers (Line 39 + Line 45)</b>	<b>\$ 221,565</b>	<b>\$ 173,327</b>	<b>\$ (48,238)</b>	<b>-21.8%</b>
Total Rate B, incremental plus base:				
Rate GV: Line 32 + Line 43	\$ 84	\$ 113	\$ 29	34.3%
Rate LG: Line 35+ Line 44	2,783	3,736	954	34.3%
Total	\$ 2,867	\$ 3,849	\$ 983	34.3%

Notes:

- (1) The result of applying rates effective August 1, 2021 to 2018 billing determinants.  
 (2) The Rate B base component was taken from Attachment JAU-4. Revenue targets for all other classes were calculated by adjusting current revenues for each class by an equal percentage.  
 (3) Column (2) - Column (1).  
 (4) Column (3) / Column (1).

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**TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM) CALCULATION  
CALCULATION OF TRANSMISSION REVENUE AND RATES FOR RATE B CUSTOMERS  
BASED ON DE 06-028 SETTLEMENT AGREEMENT ARTICLE V, SECTION 5.1.1. AND  
2018 BILLING DETERMINANTS**

	(A)	(B)	(C) = (A) x (B)	(D)	(E) = (D) / (A)	(F) = (B) + (E)
	2018 Billing Demand	Base Component of Rate	Revenue from Base Component	Allocated Revenue from Incremental Component	Incremental Component of Rate	Total Base Plus Incremental Rate
Rate B customers on Rate GV	35,399	\$ 2.64	\$ 93,453	\$ 19,210	\$ 0.54	\$ 3.18
Rate B customers on Rate LG	1,174,005	\$ 2.64	\$ 3,099,373	\$ 637,084	\$ 0.54	\$ 3.18
Total Rate B customers	1,209,404		\$ 3,192,827	\$ 656,293		

Column (B) is from Attachment JAU-2, Page 1, Line 26  
Column (D) is from Attachment JAU-3, Column (B), Lines 32 and 35.

Public Service Company of New Hampshire,  
d/b/a Eversource Energy  
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**Comparison of Rates Effective August 1, 2021 and Proposed Rates for Effect August 1, 2022  
for Residential Service Rate R**

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
Effective Date	Charge	Distribution Charge	Regulatory Reconciliation Adjustment	Transmission Charge	Stranded Cost Recovery Charge	System Benefits Charge	Electricity Consumption Tax	Energy Service Charge	Total Rate
August 1, 2021	Customer charge (per month)	\$ 13.81							\$ 13.81
	Charge per kWh	\$ 0.05177	\$ (0.00016)	\$ 0.03046	\$ 0.00896	\$ 0.00743	\$ -	\$ 0.08826	\$ 0.18672
August 1, 2022 (Proposed)	Customer charge (per month)	\$ 13.81							\$ 13.81
	Charge per kWh	\$ 0.05363	\$ 0.00047	\$ 0.02360	\$ 0.00273	\$ 0.00863	\$ -	\$ 0.22566	\$ 0.31472

**Calculation of 550 kWh monthly bill, by rate component:**

	8/1/2021	8/1/2022	\$ Change	% Change in each Component	Change as a % of Total Bill
Distribution	\$ 42.28	\$ 43.31	\$ 1.03	2.4%	0.9%
Regulatory Reconciliation Adjustment	(0.09)	0.26	\$ 0.35	-388.9%	0.3%
Transmission	16.75	12.98	(3.77)	-22.5%	-3.2%
Stranded Cost Recovery Charge	4.93	1.50	(3.43)	-69.6%	-2.9%
System Benefits Charge	4.09	4.75	0.66	16.1%	0.6%
Electricity Consumption Tax	-	-	-	0.0%	0.0%
Delivery Service	\$ 67.96	\$ 62.80	\$ (5.16)	-7.6%	-4.4%
Energy Service	48.54	124.11	75.57	155.7%	64.9%
Total	\$ 116.50	\$ 186.91	\$ 70.41	60.4%	60.4%

**Calculation of 600 kWh monthly bill, by rate component:**

	8/1/2021	8/1/2022	\$ Change	% Change in each Component	Change as a % of Total Bill
Distribution	\$ 44.87	\$ 45.99	\$ 1.12	2.5%	0.9%
Regulatory Reconciliation Adjustment	(0.10)	0.28	\$ 0.38	-380.0%	0.3%
Transmission	18.28	14.16	(4.12)	-22.5%	-3.3%
Stranded Cost Recovery Charge	5.38	1.64	(3.74)	-69.5%	-3.0%
System Benefits Charge	4.46	5.18	0.72	16.1%	0.6%
Electricity Consumption Tax	-	-	-	0.0%	0.0%
Delivery Service	\$ 72.89	\$ 67.25	\$ (5.64)	-7.7%	-4.5%
Energy Service	52.96	135.40	82.44	155.7%	65.5%
Total	\$ 125.85	\$ 202.65	\$ 76.80	61.0%	61.0%

**Calculation of 650 kWh monthly bill, by rate component:**

	8/1/2021	8/1/2022	\$ Change	% Change in each Component	Change as a % of Total Bill
Distribution	\$ 47.46	\$ 48.67	\$ 1.21	2.5%	0.9%
Regulatory Reconciliation Adjustment	(0.10)	0.31	\$ 0.41	-410.0%	0.3%
Transmission	19.80	15.34	(4.46)	-22.5%	-3.3%
Stranded Cost Recovery Charge	5.82	1.77	(4.05)	-69.6%	-3.0%
System Benefits Charge	4.83	5.61	0.78	16.1%	0.6%
Electricity Consumption Tax	-	-	-	0.0%	0.0%
Delivery Service	\$ 77.81	\$ 71.70	\$ (6.11)	-7.9%	-4.5%
Energy Service	57.37	146.68	89.31	155.7%	66.1%
Total	\$ 135.18	\$ 218.38	\$ 83.20	61.5%	61.5%

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**Comparison of Rates Effective May 1, 2022 and Proposed Rates for Effect August 1, 2022  
for Residential Service Rate R**

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
Effective Date	Charge	Distribution Charge	Regulatory Reconciliation Adjustment	Transmission Charge	Stranded Cost Recovery Charge	System Benefits Charge	Electricity Consumption Tax	Energy Service Charge	Total Rate
May 1, 2022	Customer charge (per month)	\$ 13.81							\$ 13.81
	Charge per kWh	\$ 0.05196	\$ (0.00032)	\$ 0.03046	\$ 0.00458	\$ 0.00863	\$ -	\$ 0.10669	\$ 0.20200
August 1, 2022 (Proposed)	Customer charge (per month)	\$ 13.81							\$ 13.81
	Charge per kWh	\$ 0.05363	\$ 0.00047	\$ 0.02360	\$ 0.00273	\$ 0.00863	\$ -	\$ 0.22566	\$ 0.31472

**Calculation of 550 kWh monthly bill, by rate component:**

	5/1/2022	8/1/2022	\$ Change	% Change in each Component	Change as a % of Total Bill
Distribution	\$ 42.39	\$ 43.31	\$ 0.92	2.2%	0.7%
Regulatory Reconciliation Adjustment	(0.18)	0.26	0.44	-244.4%	0.4%
Transmission	16.75	12.98	(3.77)	-22.5%	-3.0%
Stranded Cost Recovery Charge	2.52	1.50	(1.02)	-40.5%	-0.8%
System Benefits Charge	4.75	4.75	-	0.0%	0.0%
Electricity Consumption Tax	-	-	-	0.0%	0.0%
Delivery Service	\$ 66.23	\$ 62.80	\$ (3.43)	-5.2%	-2.7%
Energy Service	58.68	124.11	65.43	111.5%	52.4%
Total	\$ 124.91	\$ 186.91	\$ 62.00	49.6%	49.6%

**Calculation of 600 kWh monthly bill, by rate component:**

	5/1/2022	8/1/2022	\$ Change	% Change in each Component	Change as a % of Total Bill
Distribution	\$ 44.99	\$ 45.99	\$ 1.00	2.2%	0.7%
Regulatory Reconciliation Adjustment	(0.19)	0.28	0.47	-247.4%	0.3%
Transmission	18.28	14.16	(4.12)	-22.5%	-3.1%
Stranded Cost Recovery Charge	2.75	1.64	(1.11)	-40.4%	-0.8%
System Benefits Charge	5.18	5.18	-	0.0%	0.0%
Electricity Consumption Tax	-	-	-	0.0%	0.0%
Delivery Service	\$ 71.01	\$ 67.25	\$ (3.76)	-5.3%	-2.8%
Energy Service	64.01	135.40	71.39	111.5%	52.9%
Total	\$ 135.02	\$ 202.65	\$ 67.63	50.1%	50.1%

**Calculation of 650 kWh monthly bill, by rate component:**

	5/1/2022	8/1/2022	\$ Change	% Change in each Component	Change as a % of Total Bill
Distribution	\$ 47.58	\$ 48.67	\$ 1.09	2.3%	0.8%
Regulatory Reconciliation Adjustment	(0.21)	0.31	0.52	-247.6%	0.4%
Transmission	19.80	15.34	(4.46)	-22.5%	-3.1%
Stranded Cost Recovery Charge	2.98	1.77	(1.21)	-40.6%	-0.8%
System Benefits Charge	5.61	5.61	-	0.0%	0.0%
Electricity Consumption Tax	-	-	-	0.0%	0.0%
Delivery Service	\$ 75.76	\$ 71.70	\$ (4.06)	-5.4%	-2.8%
Energy Service	69.35	146.68	77.33	111.5%	53.3%
Total	\$ 145.11	\$ 218.38	\$ 73.27	50.5%	50.5%

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Rate Changes Proposed for Effect on August 1, 2022

**Impact of Each Change on Delivery Service Bills**  
Rate Changes Expressed as a Percentage of Total Delivery Revenue for Each Class

Class	Distribution	Regulatory Reconciliation Adjustment	Transmission	SCRC	System Benefits	Consumption Tax	Total Delivery Service
Residential	1.4%	0.7%	-5.1%	-1.6%	0.0%	0.0%	-5.3%
General Service	1.2%	0.6%	-6.5%	-3.0%	0.0%	0.0%	-7.7%
Primary General Service	0.9%	0.0%	-9.3%	-4.0%	0.0%	0.0%	-12.4%
GV Rate B	1.3%	0.6%	7.7%	-2.0%	0.0%	0.0%	7.6%
Total Primary General Service	0.9%	0.0%	-9.3%	-4.0%	0.0%	0.0%	-12.4%
Large General Service	0.8%	0.4%	-10.4%	-2.9%	0.0%	0.0%	-12.1%
LG Rate B	0.7%	1.5%	18.8%	-2.0%	0.0%	0.0%	18.9%
Total Large General Service	0.8%	0.5%	-8.1%	-2.8%	0.0%	0.0%	-9.6%
Outdoor Lighting Rate OL	2.0%	0.8%	-1.5%	-2.8%	0.0%	0.0%	-1.6%
Energy Efficient Outdoor Lt. Rate EOL	1.9%	1.1%	-1.8%	-3.7%	0.0%	0.0%	-2.6%
Total Outdoor Lighting	1.9%	0.9%	-1.6%	-3.1%	0.0%	0.0%	-1.9%
Total Retail	1.2%	0.5%	-6.2%	-2.4%	0.0%	0.0%	-7.3%

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Rate Changes Proposed for Effect on August 1, 2022

**Impact of Each Change on Bills including Energy Service**  
Rate Changes Expressed as a Percentage of Total Revenue for Each Class

Class	Distribution	Regulatory Reconciliation Adjustment	Transmission	SCRC	System Benefits	Consumption Tax	Total Energy Service	Delivery and Energy
Residential	0.7%	0.3%	-2.6%	-0.8%	0.0%	0.0%	53.2%	50.4%
General Service	0.6%	0.3%	-3.1%	-1.5%	0.0%	0.0%	57.5%	53.8%
Primary General Service	0.3%	0.0%	-3.4%	-1.5%	0.0%	0.0%	100.0%	95.5%
GV Rate B	0.7%	0.3%	4.2%	-1.1%	0.0%	0.0%	71.7%	75.8%
Total General Service	0.3%	0.0%	-3.4%	-1.5%	0.0%	0.0%	99.9%	95.4%
Large General Service	0.3%	0.0%						
LG Rate B	0.3%	0.1%	-3.2%	-0.9%	0.0%	0.0%	108.2%	104.5%
Total Large General Service	0.3%	0.5%	6.7%	-0.7%	0.0%	0.0%	100.8%	107.6%
Outdoor Lighting Rate OL	0.3%	0.1%	-3.2%	-0.9%	0.0%	0.0%	108.2%	104.5%
Energy Efficient Outdoor Lt. Rate EOL	0.3%	0.1%	-3.2%	-0.9%	0.0%	0.0%	108.2%	104.5%
Total Outdoor Lighting	1.4%	0.6%	-1.1%	-2.2%	0.0%	0.0%	31.9%	30.5%
Total Retail	0.6%	0.2%	-2.9%	-1.1%	0.0%	0.0%	69.7%	66.3%

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**STATE OF NEW HAMPSHIRE**  
**BEFORE THE NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**  
**DIRECT TESTIMONY OF DAVID JAMES BURNHAM**  
**PETITION OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE**  
**d/b/a EVERSOURCE ENERGY**  
**REQUEST FOR TRANSMISSION COST ADJUSTMENT MECHANISM (TCAM)**  
**RATE CHANGE**

**June 20, 2022**

**Docket No. DE 22-034**

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- 1   **Q.**     **Please state your name, business address and your present position.**
- 2   A.     My name is David James Burnham. My business address is 56 Prospect Street,
- 3         Hartford, CT 06103. I am the Director of Transmission Policy at Eversource
- 4         Energy (“Eversource”).
- 5   **Q.**     **Have you previously testified before the Commission?**
- 6   A.     Yes, I previously testified before the Commission on behalf of Public Service
- 7         Company of New Hampshire d/b/a Eversource Energy (“PSNH” or the
- 8         “Company”) in support of the Transmission Cost Adjustment Mechanism
- 9         (“TCAM”) in Docket Nos. DE 20-085 and DE 21-109.

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

2    A.    I represent Eversource on several ISO New England and NEPOOL stakeholder  
3           committees, including those that focus on transmission-related topics. I am  
4           responsible for advising Eversource transmission project teams on stakeholder  
5           processes and reporting requirements. Among other things, I oversee the  
6           preparation and submission of Transmission Cost Allocation (TCA) filings and  
7           other project-related filings with ISO New England. I also coordinate Eversource's  
8           responses to policy and tariff changes that are developed via the NEPOOL  
9           stakeholder processes.

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

11   A.    I hold a Bachelor of Engineering from Dartmouth College in Hanover, New  
12           Hampshire, and a Master of Science in Electrical Engineering from the University  
13           of Texas in Austin, Texas.

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

15   A.    I have experience with transmission planning, project development, and ISO New  
16           England markets. I joined Eversource as an electrical engineer supporting  
17           economic analysis of major transmission projects and have held positions of  
18           increasing responsibility within the transmission business. Prior to joining  
19           Eversource, I was an Electrical Engineer within the Office of Electric Reliability at  
20           the Federal Energy Regulatory Commission in Washington, DC.



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

2    A.     The purpose of my testimony is to describe the transmission planning process at  
3           ISO-NE and to provide a detailed description of the projects included in the LNS  
4           rates that have been included as part of PSNH's TCAM filing consistent with the  
5           directive of Order No. 25,912 dated June 28, 2016 in Docket No. DE 16-566.

6    **Q.     Will anyone else be providing testimony in support of this filing?**

7    A.     Yes. Edward A. Davis is filing testimony in support of the proposed retail  
8           transmission rates. In his testimony, Mr. Davis will detail the rates applicable to  
9           each individual rate class. Marisa B. Paruta and James E. Mathews are filing joint  
10          testimony in support of the calculation of PSNH's TCAM rate effective August 1,  
11          2022 as well as the reconciliation of actual/forecast transmission costs through the  
12          reconciliation period ending July 2022, and to describe the year-to-year change in  
13          LNS and RNS rates.

14   **Q.     What information have you provided to meet the requirements of Order No.**  
15          **25,912, dated June 28, 2016, in Docket No. DE 16-566?**

16   A.     The ISO-NE transmission planning process is a regionally-coordinated process  
17          conducted periodically to reliably meet customer demand, system stability and  
18          asset condition needs throughout the region. Broadly speaking, there is an  
19          extensive stakeholder process to identify the various needs of the electrical system

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1 and the potential solutions to those needs through the development of the regional  
2 system plan. As part of that process, ISO-NE will review potential transmission  
3 solutions and potential market alternatives. Eventually, a preferred solution is  
4 selected to address the identified needs. Eversource employs similar methods to  
5 develop a local system plan to address more localized needs of the electric system.

6 A more complete description of these processes is contained in the Company's last  
7 Least Cost Integrated Resource Plan submitted on October 1, 2020 in Docket No.  
8 DE 20-161. Bates pages 33-36 of that filing provide descriptions and links to  
9 information on both of the planning processes.

10 Additionally, as Attachment DJB-1, I have provided the Actual 2021 Projects in  
11 Service greater than \$5 million included in Schedule 21-ES, Category A (Local  
12 Network Service) for The Connecticut Light and Power Company ("CL&P"),  
13 PSNH, and NSTAR Electric Company (West) ("NSTAR(West)") that are included  
14 in the LNS expenses in this filing. The attachment includes projects for CL&P,  
15 PSNH and NSTAR(West) because all LNS customers (including PSNH retail  
16 customers) pay an average rate under Schedule 21-ES. It should be noted that  
17 beginning January 1, 2022, in accordance with the settlement approved by FERC  
18 on December 28, 2020 in Docket No. ER20-2054-000, each operating company's  
19 LNS costs are billed to its LNS customers within the state it operates; for example,  
20 PSNH's LNS costs will be billed only to PSNH's LNS customers in New

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1 Hampshire. Attachment DJB-1 details the projects by individual company, project  
2 title, total project investment amount and what portion of the project is classified  
3 by ISO-New England as a Pool Transmission Facility (“PTF”) investment.  
4

5 **Q. How does Eversource minimize energy losses from transmission lines?**

6 A. Line losses occur due to resistive heating of power-carrying transmission  
7 equipment – primarily transmission lines. While Eversource does not estimate line  
8 losses associated with its transmission system in New Hampshire, other analyses  
9 have estimated that the overall loss rate across all New England Pool Transmission  
10 Facilities is approximately 1.6 percent.<sup>1</sup> Eversource comprehensively plans for all  
11 major transmission projects, including consideration of potential line loss  
12 reductions where appropriate. Line losses can be reduced by utilizing larger and  
13 more efficient conductors. In New Hampshire, PSNH typically selects the largest  
14 standard-sized conductor that can be supported by standard transmission towers  
15 when performing transmission line reconstructions and rebuilds, which maximizes  
16 line loss reduction for minimal incremental cost. These conductors can be installed  
17 when a transmission line is replaced for various reasons such as asset condition or  
18 to improve reliability. But because costs of transmission line losses are dwarfed by  
19 the costs of transmission equipment replacements, it is not cost-effective to  
20 perform equipment replacements for the sole purpose of reducing losses. So,

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<sup>1</sup> Avoided Energy Supply Components in New England: 2021 Report, page 333

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1 while the Company has no policy for upgrading conductors strictly to reduce line  
2 losses, it does pursue this objective by harnessing the efficiency afforded by  
3 already-necessary transmission line repairs to install conductors that will reduce  
4 line losses in a cost-effective manner.

5

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

7 **A.** Yes, it does.

CL&P, PSNH, and NSTAR (West)  
 Transmission Plant In-Service  
 2021 Actual

(A) Line	(B) Company	(C) Project Title	(D) Total	(E) PTF
1	CL&P	Line Structure Replacements	\$ 84,066,642	\$ 70,773,775
2	CL&P	1751/1756 Line Structure Replacements	\$ 32,537,953	\$ 32,537,953
3	CL&P	Manchester SS Expansion	\$ 25,318,102	\$ 25,318,102
4	CL&P	1191 Line Rebuild	\$ 23,457,294	\$ 23,457,294
5	CL&P	Glenbrook STATCOM Replacement	\$ 20,337,217	\$ 20,337,217
6	CL&P	310 Line Structure Replacements and OPGW	\$ 17,684,664	\$ 17,684,664
7	CL&P	1768 Line Lattice Replacement - CT	\$ 13,666,629	\$ 13,666,629
8	CL&P	1410 Line Structure Replacements	\$ 10,023,695	\$ 10,023,695
9	CL&P	Horton Cove Circuit Separation	\$ 9,290,758	\$ 9,290,758
10	CL&P	Southington Substation-Relay Replacement	\$ 8,104,393	\$ 8,104,393
11	CL&P	1766 line OPGW Installation	\$ 7,829,940	\$ 7,829,940
12	CL&P	387 Line ACR and PINCO Insulators	\$ 7,198,271	\$ 7,198,271
13	CL&P	Eastern CT 2027 Reliability Project	\$ 6,842,838	\$ 6,842,838
14	CL&P	368 Line Structure Replacements and PINCO Insulators	\$ 6,767,008	\$ 6,767,008
15	CL&P	1588 line Structure Replacements	\$ 6,517,432	\$ 6,517,432
16	CL&P	Branford 11J A3 Bus cable replace	\$ 6,507,350	\$ 6,507,350
17	CL&P	Line 330 Asset Condition Replacement	\$ 6,322,943	\$ 6,322,943
18	CL&P	1732 line Structure Replacements and OPGW	\$ 6,158,161	\$ 6,158,161
19	CL&P	1465 & 1280 Lines OPGW	\$ 5,286,391	\$ 5,286,391
20	CL&P	Other Reliability Projects	\$ 54,321,626	\$ 31,764,426
21	CL&P	<b>Total CL&amp;P (Sum Lines 1 - 20)</b>	<b>\$ 358,239,306</b>	<b>\$ 322,389,239</b>
22	PSNH	Line Structure Replacements	\$ 43,686,335	\$ 37,476,081
23	PSNH	L163 Line Copper Retirement & Structure Replacement	\$ 12,909,570	\$ 12,909,570
24	PSNH	L175 Laminated Wood Structure Replacement	\$ 12,321,318	\$ 12,321,318
25	PSNH	D142 Line Rebuild	\$ 11,370,499	\$ -
26	PSNH	Eastport SS - Breaker Addition	\$ 8,771,821	\$ 8,771,658
27	PSNH	A111 Line Rebuild	\$ 7,831,848	\$ 7,831,848
28	PSNH	G128 Laminated Wood Structure Replacement	\$ 7,100,089	\$ 7,100,089
29	PSNH	Other Copper Retirements & Shield Wire Replacements	\$ 10,670,407	\$ 6,618,245
30	PSNH	D121 Line Copper Retirement & Structure Replacement	\$ 6,055,821	\$ 6,055,821
31	PSNH	Eddy SS Control House Equipment	\$ 5,538,961	\$ 5,538,961
32	PSNH	K174 Line Structure Replacements	\$ 5,263,804	\$ 5,263,804
33	PSNH	Other Reliability Projects	\$ 25,497,963	\$ 18,761,756
34	PSNH	<b>Total PSNH (Sum Lines 22 - 33)</b>	<b>\$ 157,018,437</b>	<b>\$ 128,649,152</b>
35	NSTAR (West)	Montague-Fairmont Rebuild Project	\$ 55,975,038	\$ 109,483
36	NSTAR (West)	Line Structure Replacements	\$ 24,577,840	\$ 24,744,291
37	NSTAR (West)	1161 Line Structure Replacements	\$ 23,008,198	\$ 23,008,198
38	NSTAR (West)	312 Line Structure Replacements	\$ 17,652,185	\$ 17,652,185
39	NSTAR (West)	1421 Line Structure Replacements	\$ 11,919,907	\$ 11,919,907
40	NSTAR (West)	312 Line Asset Condition Replacement	\$ 6,432,130	\$ 6,432,130
41	NSTAR (West)	Other Reliability Projects	\$ 15,216,387	\$ 14,785,581
42	NSTAR (West)	<b>Total NSTAR (West) (Sum Lines 35 - 41)</b>	<b>\$ 154,781,685</b>	<b>\$ 98,651,777</b>
43		<b>Total CL&amp;P, PSNH, and NSTAR (West) (Line 21 + 34 + 42)</b>	<b>\$ 670,039,428</b>	<b>\$ 549,690,167</b>