

**NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**

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Public Service Company of New Hampshire d/b/a Eversource  
Request for Change in Distribution Rates

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Docket No. DE 24-070

**DIRECT TESTIMONY**

**Eben Perkins  
Tarik Cetin**



**Competitive Energy Services, LLC  
148 Middle Street  
Portland, ME 04101**

**January 24, 2025**

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1                                   **NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**

2   **DIRECT TESTIMONY**

3   **EBEN PERKINS AND TARIK CETIN**

4   **I. INTRODUCTION**

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

6   A.     Eben Perkins, Chief Strategy Officer, and Tarik Cetin, Senior Energy Analyst, both of  
7   Competitive Energy Services, LLC, 148 Middle Street, Portland, ME 04101.

8   **Q.     Please describe Competitive Energy Services, LLC.**

9   A.     Competitive Energy Services, LLC (“CES”) is a full-service energy consulting company  
10   founded in 2000 and based in Portland, Maine. CES provides strategic energy procurement and  
11   advisory services to a wide range of end users across the commercial, industrial, and public  
12   sectors. Our clients, many of whom have been with CES since the company’s inception, include  
13   government, colleges/universities, manufacturers, healthcare providers, and technology firms.

14           CES works with our customers and energy supplier partners to develop innovative supply  
15   products that help end users hedge market risk, manage operational costs, and meet sustainability  
16   goals across a range of energy sources and environmental attributes. We help customers evaluate  
17   and pursue onsite electricity generation opportunities as well as energy efficiency and electric  
18   demand management measures. We support customers navigating the journey to reduce their  
19   greenhouse gas emissions – we have advised clients on offtake agreements totaling hundreds of  
20   megawatts of renewable energy generation facilities across the U.S. – and to develop strategic  
21   plans to implement low-carbon energy systems for facilities and campuses. Additional  
22   information about CES can be found on our website at [www.competitive-energy.com](http://www.competitive-energy.com).

1 **Q. Mr. Perkins, please describe your educational and professional experience.**

2 A. I received my B.A. from Pomona College. I have worked in the energy industry in a  
3 variety of roles, holding positions in regulated and deregulated areas of the electric sector. My  
4 professional experience includes consulting for electric utilities across the U.S. on energy  
5 efficiency program development and evaluation with Energy Market Innovations based in  
6 Seattle, WA; advising electric utilities and public entities on high-speed telecommunications and  
7 networking solutions to support smart grid and broadband infrastructure deployment with Tilson  
8 based in Portland, ME; planning and managing smart grid initiatives across Iberdrola's regulated  
9 electric utilities in the Northeast U.S.; and helping end users across the U.S. navigate energy  
10 markets, emerging technology opportunities, and strategic planning in my current role with CES.

11 Prior to joining CES, I served as Manager of Smart Grid Planning and Programs for  
12 Iberdrola USA from 2014 to 2016. In this role I worked with team members at Central Maine  
13 Power Company, New York State Electric & Gas Company, and Rochester Gas & Electric  
14 Company to develop, implement, and evaluate initiatives to leverage high-speed telecom,  
15 advanced metering infrastructure, and IT solutions to improve the utilities' grid planning and  
16 operations functions and maximize the value of ratepayer investments in smart grid technologies.  
17 My work largely focused on AMI optimization and non-wires alternative program evaluation.

18 I currently serve as Chief Strategy Officer on CES' executive management team. In this  
19 role I manage CES' consulting practice, spearhead planning for the company's continued  
20 growth, and oversee the firm's efforts to expand service offerings to our customers. My resume  
21 is included in Exhibit LCC-1.

1 **Q. Mr. Cetin, please describe your educational and professional experience.**

2 A. I received my B.A. from Tufts University. I joined CES in 2022 as an Energy Analyst and  
3 currently serve as a Senior Energy Analyst on CES’ analytics team. My professional experience  
4 includes helping end users across the U.S. navigate energy markets, regulation, and policy. I assist  
5 end users with evaluating energy markets, modeling energy consumption and needs, analyzing  
6 federal, regional and state energy policies, assessing public utility regulation and associated  
7 proceedings at public utilities commissions across the country, developing impact analyses for  
8 energy system projects, performing greenhouse gas emissions accounting for public and private  
9 clients, and conducting long-term market price forecasting across a variety of energy sources. My  
10 resume is included in Exhibit LCC-1.

11 **Q. Have you previously testified before the New Hampshire Public Utilities Commission**  
12 **or other regulatory bodies?**

13 A. Mr. Cetin has not previously testified before the New Hampshire Public Utilities  
14 Commission (the “Commission”). Mr. Perkins has testified before the Commission in *Liberty*  
15 *Utilities (Granite State Electric) Corp. d/b/a Liberty Request for Change in Distribution Rates*,  
16 Docket No. DE 23-039.

17 In Maine, Mr. Perkins has testified before the Maine Public Utilities Commission in  
18 *Commission Initiated Investigation Follow-On Proceeding To Further Investigate Stranded Cost*  
19 *Rate Design*, Docket No. 2024-00137; *Commission Initiated Investigation into Stranded Cost Rate*  
20 *Design*, Docket No. 2022-00160; *Request for Approval of a Rate Change Pertaining to Central*  
21 *Maine Power Company*, Docket No. 2022-00152; *Commission Initiated Investigation Into*  
22 *Transmission and Utility Rate Design To Promote State Policies*, Docket No. 2021-00325; and

1 *Commission Initiated Inquiry Into Rate Design Issues Associated with 2021 Legislation*, Docket  
2 No. 2021-00198. Mr. Perkins developed and submitted testimony in these proceedings on behalf  
3 of CES.

4 In Massachusetts, Mr. Perkins has testified before the Massachusetts Department of Public  
5 Utilities in *Petition of NSTAR Electric Company for Approval of a General Increase in Base*  
6 *Distribution Rates for Electric Service and a Performance-Based Ratemaking Plan*, D.P.U. 22-22.  
7 Mr. Perkins developed and submitted testimony in these proceedings on behalf of the University  
8 of Massachusetts System.

9 **Q. On whose behalf are you submitting testimony in this proceeding?**

10 A. We are jointly submitting testimony on behalf of the University System of New Hampshire,  
11 Monadnock Paper Mills, Inc., Pike Industries, Inc., and Hancock Lumber Company, Inc.  
12 (collectively, the “Large Customer Consortium” or the “Consortium”).

13 **Q. Please summarize your testimony.**

14 A. Our Testimony is organized into six sections, as described below:

- 15 • Section I provides an introduction.
- 16 • Section II summarizes the concerns we have with Public Service Company of New  
17 Hampshire’s (“PSNH” or “Company”) rate design proposal, in particular the Company’s  
18 proposal to maintain its status quo transmission rate design for large customers. Section II  
19 includes our recommendations on how to address shortcomings in PSNH’s existing  
20 transmission rate design for Large General Delivery Service (“Rate LG”) customers and  
21 Backup Delivery Service (“Rate B”) using a well-established template that has been

1 adopted by Eversource Energy in its Massachusetts service territories and has been  
2 approved for other electric utilities in New England.

- 3 • Section III provides an overview of the Large Customer Consortium and each member's  
4 energy initiatives that are impacted by PSNH's transmission rate design.
- 5 • Section IV describes PSNH's current transmission rate design for Rate LG customers and  
6 Rate B customers and explains how the rate design is applied by the Company in practice.
- 7 • Section V details how PSNH's transmission rate design for Rate LG customers and Rate  
8 B customers is disconnected from the Company's underlying cost of transmission service  
9 and contradicts principles of efficiency, fairness, and simplicity. Section V presents a  
10 voluntary opt-in rate design solution that would send an accurate price signal to large  
11 customers to incentivize participating customers to reduce their grid demand during peak  
12 load conditions on PSNH's transmission system through onsite generation, efficiency  
13 measures, manual load curtailment, and/or behind-the-meter energy storage.
- 14 • Section VI reviews the various examples of other electric utilities in New England that  
15 have had our recommended transmission rate design solution for large customers approved  
16 for implementation, including Eversource in Massachusetts, National Grid in  
17 Massachusetts, and Central Maine Power Company in Maine. Section VI also discusses  
18 the recent settlement agreement filed by Liberty Utilities in Docket No. 23-039, which  
19 includes modernizing transmission rate design for Liberty's large customers.

20 **Q. Are you sponsoring any exhibits in addition to your testimony?**

21 A. Yes, in addition to this testimony, we are sponsoring the following exhibits:

- 22 • Exhibit LCC-1, Mr. Perkins' and Mr. Cetin's Resumes.

- 1       • Exhibit LCC-2, Settlement Agreement on Permanent Rates, *Liberty Utilities (Granite State*  
2       *Electric) Corp. d/b/a Liberty Request for Change in Distribution Rates*, Docket No. DE  
3       23-039.
- 4       • Exhibit LCC-3, Supporting Data for Figure 1 and Figure 2.
- 5       • Exhibit LCC-4, Examples of Proposed Transmission Rate Design Solution Adopted in  
6       Massachusetts and Maine:
- 7           ○ Eversource Energy Western Massachusetts Extra Large General Service: Rate T-5  
8           Service Tariff;
- 9           ○ Eversource Energy Cambridge Service Area Large General Service: Rate G-3  
10          Service Tariff;
- 11          ○ Eversource Energy Cambridge Service Area Standby Service: Rate SB-1 Service  
12          Tariff (Closed);
- 13          ○ Eversource Energy Cambridge Service Area Supplemental Service: Rate SB-1  
14          Service Tariff (Closed);
- 15          ○ Eversource Energy Eastern Massachusetts Greater Boston Service Area Large  
16          General Service: Rate G-3 Service Tariff;
- 17          ○ Eversource Energy Eastern Massachusetts South Shore, Cape Cod & Martha's  
18          Vineyard Service Area Large General Service: Rate G-3 Service Tariff;
- 19          ○ Eversource Energy Western Massachusetts Large General Service: Rate G-3  
20          Service Tariff; and
- 21          ○ Central Maine Power Company Optional Targeted Service Rate: B-CPT General  
22          Service Coincident Peak Transmission Tariff.



1           **II. PURPOSE OF TESTIMONY: CONCLUSIONS & RECOMMENDATIONS**

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

3   A.     The purpose of this testimony is to show that PSNH’s rate proposal is inconsistent with its  
4   stated principles and objectives with respect to transmission rate design for large customer classes,  
5   is inconsistent with many of the State’s “Restructuring Policy Principles” (e.g., Principles II  
6   (Customer Choice), III (Regulation and Unbundling of Services and Rates), VI (Benefits for All  
7   Consumers), VIII (Environmental Improvement), IX (Renewable Energy Resources), and X  
8   (Energy Efficiency)), and may not be just and reasonable as applied to these classes. –These  
9   shortcomings can be addressed by adopting the alternative rate design for Rate LG and Rate B  
10  described in Section V of this testimony.

11           In its initial filing, PSNH advocates for enhancing efficiency and equity properties in the  
12  Company’s electric rates<sup>1</sup> and for sending price signals to customers that will incentivize efficient  
13  usage of its system and therefore more efficient expansion of the grid<sup>2</sup>. Contrary to these goals,  
14  PSNH’s rate design proposal retains antiquated features and does not address longstanding flaws  
15  in the Company’s transmission rate design for its large customers. PSNH’s proposal to maintain  
16  its status quo transmission rate design for Rate LG customers and Rate B customers contradicts  
17  principles of efficiency, fairness, and simplicity for sound ratemaking, and undercuts the “most  
18  compelling reason” for restructuring (reducing costs) by specifically not “harnessing the power of  
19  competitive markets.” RSA 374-F:1.

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<sup>1</sup> Direct Testimony of Amparo Nieto, page 1, lines 10-11.

<sup>2</sup> Direct Testimony of Amparo Nieto, page 4, lines 12-14.

1           ISO New England (“ISO”) allocates regional transmission costs to PSNH based on the  
2 aggregate grid-served electric load of PSNH’s customers during PSNH’s peak load hour each  
3 month. The manner in which PSNH then allocates these transmission charges to its large customers  
4 is completely disconnected from the ISO’s initial cost allocation to PSNH and therefore does not  
5 reflect cost causation. If, despite PSNH’s current rate design, a Rate LG or Rate B customer  
6 reduces its grid demand during PSNH’s peak load hour in a month through onsite generation,  
7 efficiency measures, manual load curtailment, and/or behind-the-meter energy storage (*i.e.*, load  
8 shifting), the customer does not realize any meaningful benefit through a lower transmission  
9 demand charge on PSNH’s corresponding monthly electric bill. This customer’s action to manage  
10 its own electric demand during PSNH’s monthly peak load hour, however, would reduce PSNH’s  
11 aggregate peak demand and thus would reduce the transmission costs for other large customers  
12 during PSNH’s next transmission rate period, all else equal. The effect is an inefficient, inequitable  
13 intraclass subsidy that gets reflected in transmission rates for PSNH’s large customers.

14           PSNH’s existing transmission rate design for its Rate LG customers has been in effect since  
15 1992. It is important to consider how long ago this was. Entering 1992, the Chicago Bulls franchise  
16 had only won one NBA championship, the Spice Girls had not yet been formed, Mr. Perkins was  
17 two years old and learning to talk, and Mr. Cetin would not be born for another seven years.  
18 Perhaps more relevant, this change in PSNH’s rate design was made years before electricity  
19 deregulation. In 1992, ISO did not exist, PSNH was still a vertically integrated utility, and  
20 Seabrook Station had been operating for less than two years.

21           PSNH’s transmission rate design for Rate LG and Rate B customers is outdated. The  
22 current rate design does not support investment by large customers in modern forms of onsite

1 generation and load shifting technologies nor does it incentivize operational changes that enable  
2 large customers to minimize or eliminate their contribution to peak demand on PSNH's  
3 transmission system. Because Rate LG and Rate B do not create the appropriate incentive for  
4 large customers to help themselves reduce PSNH's coincident peak demand, over time PSNH's  
5 peak demand will be higher than it otherwise should be, driving the need for earlier or more  
6 significant system expansion and resulting in higher transmission costs for all PSNH ratepayers.  
7 Furthermore, the lack of an efficient price signal leads to the need to establish incentive-based  
8 demand management programs for large customers in PSNH's service territory that may be funded  
9 by other ratepayers through PSNH's energy efficiency program.

10           The purpose of our testimony is to provide a straightforward, demonstrated solution to this  
11 transmission rate design problem for large customers. The Large Customer Consortium proposes  
12 that PSNH implement a voluntary opt-in transmission rate design for Rate LG and Rate B  
13 customers that Eversource Energy has already implemented in its Massachusetts service territory  
14 and that has been approved for other electric utilities in Massachusetts and Maine. This voluntary  
15 coincident peak transmission ("CPT") rate option would align how PSNH allocates monthly  
16 transmission demand charges to participating Rate LG or Rate B customers with how ISO allocates  
17 regional transmission costs to PSNH for its large customers.

18           The proposed CPT rate option offers multiple benefits. The rate design creates a strong  
19 connection between participating customers' transmission rates and the underlying cost of PSNH  
20 providing electric transmission service, incentivizes efficient customer behavior that creates  
21 downward pressure on transmission rates over time and advances affordability for all ratepayers,  
22 and provides large customers with a choice in pricing products.

1           The CPT rate option would only change a participating customer’s transmission rate  
2 design. The distribution rate design and revenue requirements for PSNH’s large customer classes  
3 would be unaffected by the implementation of the CPT rate option. Approval of the CPT rate  
4 design would not increase residential rates. Furthermore, the manual billing costs associated with  
5 PSNH implementing the CPT rate option would be covered by participating customers.

6 **Q.    Is the CPT rate option too complex for PSNH to implement and/or for PSNH’s large**  
7 **customers to understand?**

8 A.    No. As we discuss later in the testimony, there is a robust track record of large customers  
9 in other utility territories utilizing a CPT rate option, being highly satisfied with the CPT rate  
10 option, and advocating for the expansion of this rate design across New England. PSNH argues  
11 that implementation of the CPT option would be complex and would not provide a consistent  
12 positive customer experience.<sup>3</sup> The actual experience in other jurisdictions, particularly  
13 Eversource’s service territories in Massachusetts, proves that the opposite is true.

14 **Q.    Is this proceeding the appropriate venue to consider the CPT rate option?**

15 A.    Yes. This is PSNH’s general rate case, in which it has proposed a wide range of changes  
16 to its tariffs, and there is no other forum or venue for consideration of the CPT rate option.

17           Despite these facts, in its responses to multiple data requests issued by the Large Customer  
18 Consortium, PSNH argues that transmission rate design is not within the scope of this proceeding.<sup>4</sup>  
19 This argument is false and seeks improperly to limit the Commission’s ratemaking authority. RSA  
20 378:7 authorizes the Commission to determine whether rates charged to retail utility customers in

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<sup>3</sup> See LCC 1-020.

<sup>4</sup> See LCC 1-009, LCC 1-010, LCC 1-011, LCC 1-019, LCC 1-020.

1 New Hampshire are just, reasonable and lawful. This includes retail transmission rates, including  
2 those that are recovered through PSNH's Rate LG and Rate B tariffs.

3 Implementation of the CPT rate option for Liberty Utilities' large customers in New  
4 Hampshire was included in the settlement agreement recently filed in Liberty's electric distribution  
5 rate case in Docket No. DE 23-039. A copy of the settlement agreement is provided for reference  
6 in Exhibit LCC-2. Liberty's initial filing in Docket No. DE 23-039 included a rate design proposal  
7 that did not propose any changes to transmission rate design for its large customers, like PSNH's  
8 initial filing which proposed to maintain status quo rate design. Dartmouth College, an intervenor  
9 in the case, proposed the CPT rate option that was ultimately included in the settlement agreement.  
10 Liberty's settlement agreement demonstrates that an electric distribution rate case is exactly the  
11 right venue to consider whether a utility's transmission rate design warrants updates or  
12 modernization, regardless of whether the utility is the entity proposing the rate option.

13 Looking outside of New Hampshire, other electric utilities have recently adopted a CPT  
14 rate option through distribution rate cases similar to this proceeding. See Exhibit LCC-4 for a list  
15 of other electric utilities in Maine and Massachusetts that have adopted tariffs consistent with the  
16 CPT rate proposal. In Massachusetts, Eversource adopted the CPT rate option following electric  
17 distribution cases in 2012 (for large customers in Western Massachusetts) and 2022 (for large  
18 customers in Eastern Massachusetts). In both of these proceedings in Massachusetts, the utility  
19 was not the party that proposed a modification to the existing transmission rate design.

20 Looking to history, in Docket No. DE 06-28, PSNH filed a petition requesting a series of  
21 delivery service rate adjustments for effect in July 2006. In Order No. 24,750 issued on May 25,  
22 2007, the Commission approved changes in the transmission rate design for Rate B customers

1 despite PSNH’s initial filing in the proceeding not including changes in transmission rate design,  
2 just like our situation today in this case. The change in transmission rate design for Rate B  
3 customers that was adopted in the settlement agreement and approved by the Commission came  
4 from expert testimony developed by then staff member of the Commission, Mr. George R.  
5 McCluskey.

6 It is puzzling to consider what PSNH believes would be the appropriate venue for  
7 considering potential changes to its transmission rate design, if not a rate case where the Company  
8 has filed a comprehensive rate design proposal that includes significant changes to move rates  
9 towards a marginal pricing-based approach. No other proceeding would appear to be the proper  
10 forum for the CPT rate proposal. If PSNH were correct, then by not proposing a change to  
11 transmission rate design, the Company could forever insulate its design for large customers, except  
12 insofar as the Commission chose to investigate such rates on its own under RSA 378:8, RSA 374-  
13 F:4, VIII(a), or RSA 374:2 or if a non-utility complained of such rate under RSA 378:8. For  
14 example, PSNH’s annual Transmission Cost Adjustment Mechanism (“TCAM”) filing and  
15 associated proceeding focuses on transmission cost and rate reconciliation, not the *design* of  
16 transmission rates. In CES’ view, the TCAM review process is not the appropriate space to  
17 consider transmission rate design changes.

18 **Q. Please state your primary conclusions and recommendations.**

19 A. In Order No. 20,504 issued in 1992, the Commission eloquently summarized the key goals  
20 of rate design and the importance of sending proper price signals to customers:

21 We are cognizant of, and endorse, many of the ratemaking objectives, such as revenue stability,  
22 rate continuity, simplicity and understandability outlined by PSNH in its filing. The objective of  
23 the Rate Phase-In Stipulation is to add some measure of needed protection and time for customers  
24 to adjust to the changes proposed in the Stipulation. We commend the Staff, PSNH and the other  
25 Parties for their sensitivity to those affected customers.

1  
2           Nonetheless, if we viewed rate design as a house, the important aspects of equity, continuity,  
3           simplicity, understandability, and revenue stability are the attributes that make the house liveable,  
4           in other words they make the house a home. The support – the foundation and the frame - is the  
5           cost studies; particularly, it rests on the marginal cost of service study (MCOSS) as we have  
6           indicated a number of times in various dockets over the past few years.

7  
8           **We believe efficiency is enhanced by sending customers proper price signals** and marginal  
9           cost of service pricing sends better long-term price signals than prices based on embedded cost of  
10          service studies. Additionally, marginal cost pricing complements our integrated resource planning  
11          process. PSNH proposes to update its MCOSS by the end of 1992. We expect PSNH to update its  
12          MCOSS on a yearly basis and to be consistent with its Integrated Resource Planning filings.<sup>5</sup>

13  
14          To modernize its rate design for large customers for the first time in decades, PSNH should  
15          update its Rate LG and Rate B tariffs to establish a voluntary CPT rate option for large customers  
16          that enhances efficiency and equity properties in the Company’s electric rates<sup>6</sup> and sends price  
17          signals to customers that will incentivize efficient usage of its system and therefore more efficient  
18          expansion of the grid.<sup>7</sup> The Consortium appreciates that PSNH would need to manually bill the  
19          CPT rate option in the near term until the Company’s larger billing system upgrade is completed.  
20          Large customers should pay for these manual billing costs, as reflected in our proposal, like the  
21          other similar cases in New Hampshire (Liberty Utilities) and in Massachusetts (Eversource).

22          Starting with PSNH’s October 2025 billing cycle, any Rate LG customer or Rate B  
23          customer should be able to opt into the CPT rate option through an e-mail communication to  
24          PSNH. Following the account’s enrollment in the CPT rate option, a participating customer’s  
25          monthly transmission demand charge would be based on the customer’s average 60-minute grid  
26          demand (measured in kilowatts) registered during PSNH’s monthly peak load hour as determined  
27          for the purposes of PSNH reporting its Regional Network Service (“RNS”) loads to ISO.

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<sup>5</sup> Re Public Service Company of New Hampshire, Order No. 20,504 at 285, 77 N.H. P.U.C. 276 (June 8, 1992).

<sup>6</sup> Compare Direct Testimony of Amparo Nieto, page 1, lines 10-11.

<sup>7</sup> Compare Direct Testimony of Amparo Nieto, page 4, lines 12-14.

1           For a situation where a customer has a Rate B account and a Rate LG account for the same  
2 electrical feed from PSNH, such as the example we discuss later for the University of New  
3 Hampshire’s campus in Durham, the customer’s average 60-minute grid demand measured during  
4 PSNH’s monthly peak load hour would be assessed as the transmission demand charge on the Rate  
5 LG account’s monthly bill. The Rate B account would remain in place for the purpose of assessing  
6 standby distribution charges, but any transmission demand charges to the customer would be  
7 applied to the Rate LG account.

8           Implementation for the October 2025 billing cycle aligns with when PSNH would reset  
9 annual transmission rates pursuant to the TCAM and would give the Company approximately 75  
10 days to prepare for the CPT rate option, assuming that the Commission issues a final order in the  
11 proceeding by July 15, 2025, as set forth in the current procedural schedule. To recover the costs  
12 of manual bill processing for the CPT rate option and to ensure that other customers do pay for  
13 the implementation, PSNH would increase the monthly customer charge of the participating  
14 customers by \$100 per month.

15           In closing, PSNH’s responses to the Consortium’s data requests indicate that the Company  
16 is likely opposed to the CPT rate option and is seeking to limit the Commission’s ratemaking  
17 authority. This mirrors the recent situation in Massachusetts, where Eversource fought broad  
18 advocacy from its large customers for the expansion of a CPT rate option from Western  
19 Massachusetts to Eastern Massachusetts during Eversource’s most recent electric distribution rate  
20 case in 2022. Large customers want this change. It is an appropriate time to expand the CPT rate  
21 option to PSNH’s service territory and to modernize transmission rate design for large customers  
22 throughout New Hampshire.



1                                   **III. OVERVIEW OF THE LARGE CUSTOMER CONSORTIUM**

2   **Q.   Please provide an overview of the Large Customer Consortium.**

3   A.    The University System of New Hampshire (“USNH”) is the largest provider of  
4   postsecondary education in the state and is comprised of Keene State College, Plymouth State  
5   University, and the University of New Hampshire (“UNH”). USNH institutions offer a full array  
6   of postsecondary educational opportunities and residential campuses are integrated into the  
7   communities of Durham, Plymouth and Keene. UNH’s Durham campus is New Hampshire’s  
8   flagship public research university, serving over 14,000 undergraduate and graduate students.  
9   UNH is a leader in energy innovation in New Hampshire; the Durham campus operates a highly  
10   efficient district energy system that UNH continues to develop and modernize to serve students,  
11   faculty, and the community. USNH has multiple Rate LG accounts across its Keene State and  
12   UNH campuses and multiple Rate B accounts at UNH’s campus in Durham.

13            Founded in 1819 and based in Bennington, NH, Monadnock Paper Mills, Inc. works with  
14   the world's leading brands to craft and customize environmentally responsible performance papers  
15   for commercial printing, packaging and technical applications. Monadnock is committed to  
16   environmental stewardship and maintains that fiber-based alternatives to plastic can be cost  
17   efficient, environmentally sensitive, and beautiful. Monadnock Paper Mills has a Rate LG account  
18   for its facility in Bennington, NH.

19            Pike Industries, Inc., a CRH Company, operates quarries, aggregate crushing, and hot mix  
20   asphalt production facilities throughout Maine, New Hampshire, and Vermont, providing  
21   specification products for all state and Federal Aviation Administration applications. Established  
22   in 1872 and headquartered in Belmont, NH, Pike is a recognized leader in road and highway

1 infrastructure advocacy because strong economies require safe and efficient transportation. Pike  
2 Industries has a Rate LG account for its facility in Hookset, NH.

3 Hancock Lumber operates high-efficiency sawmills, lumberyards, component  
4 manufacturing facilities, and full-service kitchen design showrooms. Founded in 1848, Hancock  
5 Lumber is a seventh-generation, family-owned integrated forest products company. Led by over  
6 700 employees, the company's mission is to create a work environment that recognizes employees  
7 as human beings and ultimately enhances the lives of everyone who works there. Hancock Lumber  
8 has a Rate LG account at its facility in Madison, NH.

9 **Q. Please describe how Consortium members currently manage their electric demand.**

10 A. Monadnock Paper Mills, Pike Industries, and Hancock Lumber have actively managed  
11 their electric demand during peak summer days to try to reduce their capacity tags and associated  
12 installed capacity ("ICAP") costs for electricity supply. These demand management actions benefit  
13 all New Hampshire ratepayers by reducing the need for marginal generation capacity over time  
14 and demonstrate how an efficient supply-side rate design can incentivize beneficial behavior by  
15 large customers that supports efficient utilization and expansion of the electric system.

16 **Q. Please describe how USNH currently manages the campus' grid demand.**

17 A. Unlike the other Consortium members and USNH campuses, UNH has existing onsite  
18 electric generation that can deliver power behind-the-meter and reduce the campus' grid demand.  
19 In 2005, UNH installed a combined heat and power ("CHP") plant in Durham to generate  
20 electricity for UNH's six-million-square-foot campus, and to heat and cool over 80 campus  
21 buildings. The CHP plant produces power for the campus using a 7.9-MW Siemens SGT 300 gas  
22 turbine. Waste heat from the turbine is used to generate 45,000 pounds per hour of 150-psi steam

1 within a heat recovery steam generator. The 150-psi steam feeds a backpressure steam turbine that  
2 produces additional electricity for use on campus, feeds absorption chillers that are operated during  
3 cooling season and help avoid added grid demand during peak summer conditions, and after a  
4 pressure reduction, heats campus buildings.

5 UNH is working to expand its capabilities to minimize the campus' grid demand on  
6 PSNH's transmission system during peak conditions. In 2025, UNH will commission a thermal  
7 energy storage ("TES") system that stores chilled water in a 1.4 million-gallon above ground tank.  
8 UNH is installing the TES to satisfy increasing cooling needs in lieu of constructing a new chiller  
9 plant on campus. This capital investment allows UNH to more efficiently use its existing campus  
10 energy infrastructure and to avoid adding load to PSNH's grid during peak conditions.

11 The TES tank is designed to operate as a "water battery"; instead of installing a new chiller  
12 plant to produce additional energy for space cooling, the TES tank will store chilled water  
13 produced by the existing chiller plants during off-peak nighttime hours, when it is more efficient  
14 to cool water. The chilled water can then be released for use in campus air conditioning during the  
15 following day, reducing UNH's grid demand when PSNH's transmission system is most  
16 constrained on hot summer afternoons. The TES is designed to store 10,000 ton-hours of cooling  
17 energy. In electrical terms, this is roughly equivalent to a 10,000-kWh battery system.

18 **Q. Do members have first-hand experience with the recommended CPT rate option?**

19 A. Yes. Pike Industries and Hancock Lumber have enrolled their Maine facilities in Central  
20 Maine Power Company's CPT rate option. Both entities are highly satisfied with the transmission  
21 rate design and find the CPT rate option to be a significant improvement in terms of efficiency,  
22 fairness, and simplicity compared to CMP's traditional transmission rate design.

1           **IV. OVERVIEW OF PSNH’S CURRENT TRANSMISSION RATE DESIGN**

2   **Q. Which PSNH customers are eligible to take electric service under Rate LG?**

3   A. Rate LG is for high voltage delivery service for customers with maximum demand  
4   exceeding 1,000 kW.

5   **Q. Please summarize how PSNH charges Rate LG customers for transmission service.**

6   A. PSNH’s rate design for Rate LG customers includes a fixed monthly customer charge, a  
7   distribution energy charge that is assessed per kWh of consumption during the Company’s on-  
8   peak and off-peak periods, a distribution demand charge that is assessed per kilovolt-ampere  
9   (“kVA”) of maximum demand, various kWh-based charges for state-sponsored electricity  
10   programs and adjustment mechanisms, and a transmission demand charge that is assessed per kVA  
11   of “Maximum Demand”. Eversource’s transmission demand charge for Rate LG customers is  
12   currently \$12.74 per kVA of Maximum Demand.

13           Under the Rate LG tariff, Maximum Demand is calculated each month by PSNH based on  
14   the greater of a customer’s (1) highest 30-minute kVA demand registered in a monthly billing  
15   cycle during PSNH’s on-peak hours, which include the hours of 7 A.M. to 8 P.M. daily Monday  
16   through Friday excluding holidays; (2) 50% of the highest 30-minute kVA demand registered  
17   during PSNH’s off-peak hours<sup>8</sup>, which include the hours of 8 P.M. to 7 A.M. on all business days  
18   and all hours of weekend days; or (3) 80% of the kVA demand by which the greatest amount  
19   defined in (1) and (2) above during the 11 preceding months exceeds 1,000 kVA.

---

<sup>8</sup> The Rate LG tariff includes an exception for (2): except that for any portion of the customer's highest 30-minute off-peak grid demand in excess of 30,000 kVA the multiplier applicable to the amount of such demand within each successive 10,000 kVA block of such excess portion shall be increased from 50% by successive 10% increments, up to a maximum multiplier of 100% for that portion of demand in excess of 70,000 kVA.

1 **Q. When was the last time PSNH updated its transmission rate design for Rate LG?**

2 A. In its response to LCC 1-004, PSNH states the Company has not modified its current on-  
3 peak hours for Rate LG and corresponding service to Rate B since 1992.

4 **Q. Is PSNH proposing any changes to its transmission rate design for Rate LG?**

5 A. No. PSNH proposes to maintain its status quo transmission rate design for Rate LG  
6 customers, despite the passage of over 30 years and monumental changes to the way electricity is  
7 generated, transmitted, managed, and consumed in New Hampshire and across the region.

8 **Q. Please provide an example of how PSNH's Rate LG transmission rate design works in  
9 practice for a large customer.**

10 A. Table 1 presents one Consortium member's transmission billing units during the 12  
11 monthly billing cycles in 2023. The second column in the table shows the customer's highest 30-  
12 minute kVA demand registered in a monthly billing cycle during PSNH's on-peak hours. The third  
13 column in the table shows the billed demand that PSNH used for the final transmission charge.

14  
15 Table 1. Rate LG Account Example #1: 2023 Transmission Billed Demand

Billing Cycle	Maximum On-Peak Registered kVA	Maximum Demand Billed kVA
January	2,031	2,031
February	2,227	2,227
March	2,028	2,028
April	1,958	1,958
May	3,226	3,226
June	3,120	3,120
July	3,155	3,155
August	1,977	1,977
September	1,846	1,846
October	1,747	1,780
November	1,727	1,780
December	1,430	1,780
TOTAL	26,472	26,908

1           Table 1 shows that the Maximum Demand billed by PSNH in the October, November, and  
2   December billing cycles (1,780 kVA) did not equal the highest 30-minute kVA registered by the  
3   customer during PSNH’s on-peak hours for the October (1,747 kVA), November (1,727 kVA),  
4   and December (1,430 kVA) billing cycles. The Maximum Demand billed in the October,  
5   November, and December billing cycles was based on the max on-peak demand from the May  
6   billing cycle (3,226 kVA) and the third prong of the Maximum Demand formula described above  
7   (i.e.,  $(3,226 \text{ kVA} - 1,000 \text{ kVA}) * 80\% = 1,780 \text{ kVA}$ ).

8   **Q.   Which PSNH customers are eligible to take electric service under Rate B?**

9   A.   Rate B is for backup and maintenance delivery service provided by PSNH in conjunction  
10   with electricity produced by generation facilities located on the Customer’s side of the meter which  
11   supply all or a portion of the customer’s electric load requirements on a regular basis. Service  
12   under Rate B is mandatory for customers who take Conjunctional Service as specified in PSNH’s  
13   Terms and Conditions for Delivery Service, and who, except for their own generation,  
14   would otherwise qualify for service under either Rate GV or Rate LG.

15   **Q.   Please summarize how PSNH charges Rate B customers for transmission service.**

16   A.   PSNH’s rate design for Rate B customers includes two fixed monthly customer charges, a  
17   transmission demand charge, a distribution demand charge, and several other demand-based  
18   charges for stranded cost recovery, PSNH’s pole plant adjustment mechanism, and PSNH’s  
19   regulatory reconciliation adjustment. Eversource’s transmission demand charge for Rate B  
20   customers is currently \$1.19 per kVA or kW, whichever is applicable, of “Backup Contract  
21   Demand”.

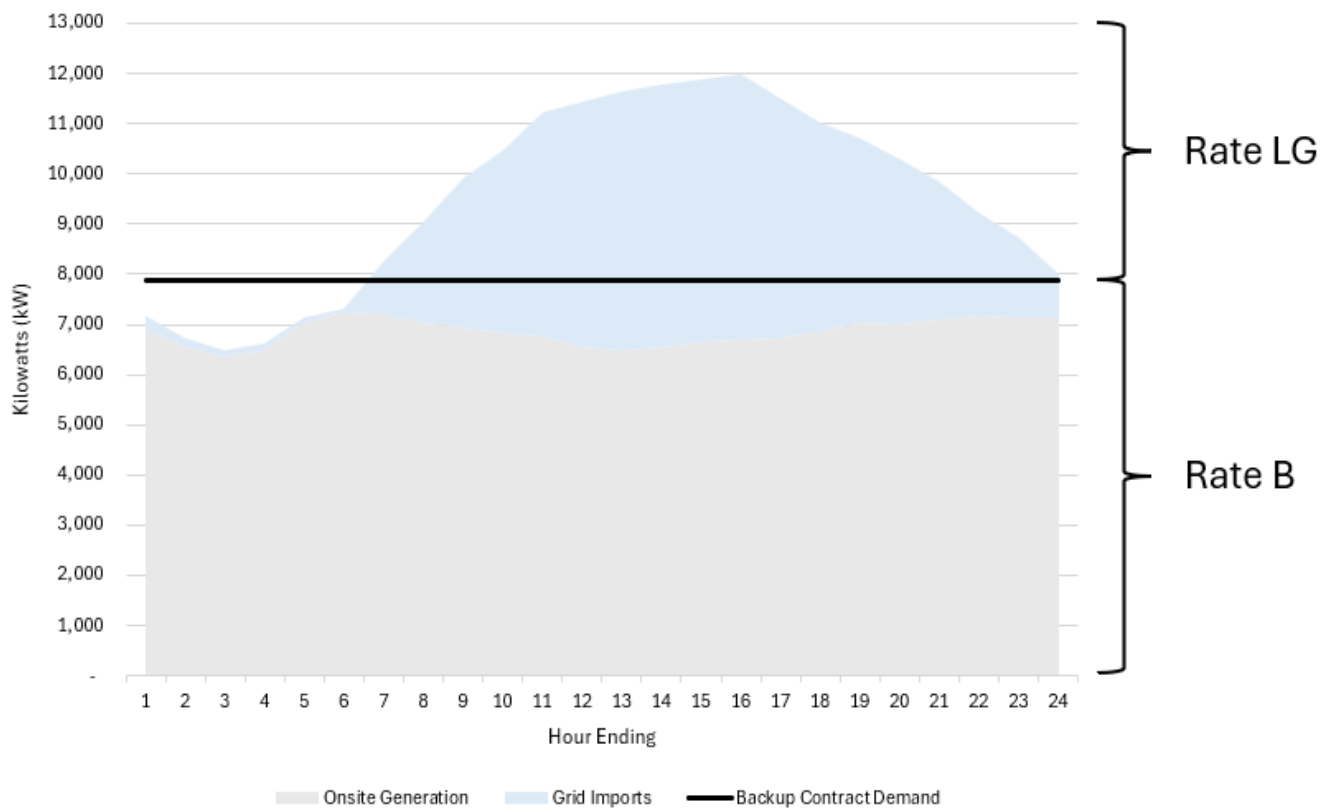
1 PSNH's Rate B tariff defines Backup Contract Demand as an amount of demand which the  
2 customer may impose on PSNH's distribution system to back up the customer's generating  
3 facilities. For Rate B customers whose maximum demand exceeds their onsite generating capacity,  
4 Backup Contract Demand is calculated as the normal output rating (measured in kW) of the  
5 customer's generating facilities as determined by PSNH by test operation. For Rate B customers  
6 whose onsite generating capacity is larger than their total internal load and who would otherwise  
7 be served under Rate LG, Backup Contract Demand is calculated as the highest 30-minute kVA  
8 demand recorded during on-peak hours across the current month and the previous 11 months.

9 **Q. Please provide an example of how PSNH's Rate B and Rate LG transmission rate**  
10 **design works in practice for a large customer that has onsite generation.**

11 A. USNH is the only Consortium member with existing onsite electric generation, meaning it  
12 is the only member with a Rate B account. UNH's campus is fed by a 34.5 kV sub-transmission  
13 line owned and operated by PSNH. The campus' 34.5 kV substation includes a Rate B account  
14 and a Rate LG account, with both accounts utilizing the same grid infrastructure and feed from  
15 PSNH.

16 As shown in Figure 1, the Rate B account applies to all power imported from the grid to  
17 the campus when the campus' total internal electric load is below 7,889 kW. The 7,889-kW  
18 threshold shown reflects UNH's onsite generating capacity from the behind-the-meter combined  
19 heat and power system on campus and is utilized by PSNH as the Backup Contract Demand for  
20 the Rate B account. Figure also shows that the Rate LG account for UNH's 34.5 kV feed from  
21 PSNH applies to all grid demand for the campus when UNH's internal electric load is greater than  
22 7,889 kW.

1 Figure 1: Illustrative Example of PSNH's Application of Rate B and Rate LG



2

3

4 Focusing on the Rate B account serving UNH's campus, Table 2 shows the billed demand

5 PSNH applied to the account in 2023. The billed Backup Contract Demand totaled nearly 95,000

6 kW over the 12-month period. Since the campus' maximum demand exceeds the onsite generating

7 capacity, Backup Contract Demand is calculated as the normal output rating (measured in kW) of

8 UNH's behind-the-meter generating facilities on campus. Table 2 highlights that the transmission

9 demand billed to UNH for the campus' Rate B account does not vary month-to-month and has no

10 relationship to the onsite generation's operational performance throughout the course of the year.

11 UNH is currently charged nearly \$9,400 per month (\$1.19 per kW multiplied by 7,889 kW)

12 regardless of whether UNH's onsite generation system was operating and reducing the campus'



1 grid demand during PSNH’s monthly peak load hour. Most of all, UNH is currently charged this  
 2 amount regardless of whether the cogeneration system reduces the transmission costs allocated by  
 3 ISO to PSNH.

4  
 5 Table 2. Rate B Account Example #1: 2023 Transmission Billed Demand

Billing Cycle	Backup Contract Demand Billed kW
January	7,889
February	7,889
March	7,889
April	7,889
May	7,889
June	7,889
July	7,889
August	7,889
September	7,889
October	7,889
November	7,889
December	7,889
TOTAL	94,668

6  
 7 Turning to the Rate LG account that serves UNH’s campus, Table 3 below shows the billed  
 8 demand units PSNH applied to the account throughout 2023. The second column in Table 3,  
 9 Maximum On-Peak kVA, shows the maximum 30-minute kVA grid demand that PSNH recorded  
 10 for the Rate LG account during all on-peak hours in each month, which include the hours of 7  
 11 A.M. to 8 P.M. daily Monday through Friday excluding holidays. In other words, the second  
 12 column shows the highest kVA demand reading for the account across more than 33% of total  
 13 hours in a monthly billing cycle, based on the 13-hour on-peak window during business days. The  
 14 third column of Table 3, Maximum Demand Billed kVA, shows the billed kVA used by PSNH to  
 15 assess the transmission demand charge to the Rate LG account on each month’s bill.

1 Table 3. Rate LG Account Example #2: 2023 Transmission Billed Demand

Billing Cycle	Maximum On-Peak Registered kVA	Maximum Demand Billed kVA
January	1,496	2,770
February	1,462	2,770
March	2,398	2,770
April	1,878	2,770
May	2,086	2,770
June	2,551	2,770
July	3,952	3,952
August	2,657	2,657
September	4,283	4,283
October	2,388	2,626
November	2,015	2,626
December	1,473	2,626
TOTAL	28,639	35,390

2  
3 Table 3 highlights that the customer’s billed demand differed from the maximum on-peak  
4 demand in 9 of the 12 months in 2023. As a reminder, the billed kVA used by PSNH to assess  
5 transmission demand charges to Rate LG customers is based on the greater of a customer’s (1)  
6 highest 30-minute kVA demand registered in a monthly billing cycle during PSNH’s on-peak  
7 hours in a monthly billing cycle; (2) 50% of the highest 30-minute kVA demand registered during  
8 the off-peak hours in a monthly billing cycle, which include the hours of 8 P.M. to 7 A.M. on all  
9 business days and all hours of weekend days; or (3) 80% of the kVA demand by which the greatest  
10 amount defined in (1) and (2) above during the 11 preceding months exceeds 1,000 kVA.

11 The 2,770 kVA that was billed in each of the first six months of 2023 is based on the  
12 maximum on-peak kVA reading for the Rate LG account recorded in August 2022: 4,463 kVA.  
13 Under the third prong of Rate LG’s Maximum Demand formula, 80% multiplied by 3,463 kVA  
14 (4,463 kVA – 1,000 kVA) equals 2,770 kVA. This figure was greater than the maximum on-peak  
15 kVA recorded for the account from October 2022 through June 2023 and therefore was used as

1 the billed demand from January 2023 to June 2023 as shown in Table 3. The 2,626 kVA that was  
2 billed in October 2023, November 2023, and December 2023 is based on the maximum on-peak  
3 kVA reading for the Rate LG account in September 2023: 4,283 kVA. Under the third prong of  
4 Rate LG's Maximum Demand formula, 80% multiplied by 3,283 kVA (4,283 kVA – 1,000 kVA)  
5 equals 2,626 kVA. This figure was greater than the maximum on-peak kVA recorded for the  
6 account from October 2023 through May 2024.

7 This example of how PSNH determines transmission charges for a large customer  
8 underlines the fact the current transmission rate design for PSNH's large customers is complex  
9 and does not adhere to cost causation principles for how ISO allocates transmission costs to PSNH.

10

## 11 **V. CONCERNS WITH PSNH'S CURRENT TRANSMISSION RATE DESIGN**

12 **Q. Please explain PSNH's underlying cost of providing transmission service for Rate LG**  
13 **and Rate B customers.**

14 A. Under ISO's Open Access Transmission Tariff, PSNH's cost obligations for transmission  
15 service are determined each month by its peak hourly load. The total costs for transmission service  
16 in New England are allocated to each transmission owner across the region based on a formula  
17 that computes the utility's share of the sum of the non-coincident peak loads of all transmission  
18 utilities each month.

19 **Q. Does PSNH have a fixed cost for providing transmission service to customers?**

20 A. No. PSNH's costs of providing transmission service are not fixed, due to the manner in  
21 which the ISO charges PSNH for its share of regional transmission costs. If PSNH's coincident  
22 monthly peak load falls for any reason, its share of regional transmission costs falls. This means

1 that, if a PSNH customer does not impose any grid demand during the hour of PSNH's monthly  
2 peak load, PSNH does not incur transmission costs to serve that customer. In other words, if a  
3 customer reduces its grid demand during PSNH's monthly peak load hour through onsite  
4 generation, efficiency measures, manual load curtailment, and/or behind-the-meter energy storage  
5 (i.e., load shifting), PSNH does not incur an expense through ISO New England's cost allocation  
6 formula to serve that customer.

7 **Q. Did PSNH acknowledge that there are clear discrepancies between the way in which**  
8 **ISO New England allocates transmission costs to PSNH and the way in which PSNH**  
9 **collects transmission costs from its Rate LG and Rate B customers?**

10 A. Yes. In its response to LCC 1-007, PSNH confirmed that if the total hourly  
11 consumption during the peak used by a Rate LG or Rate B customer decreases for any reason, the  
12 reduced RNS load reported by PSNH would result in lower expenses allocated to PSNH from ISO  
13 New England (all else being equal).

14 In its response to LCC 1-008, PSNH acknowledged that a Rate LG or Rate B customer's  
15 grid demand outside of Eversource's monthly peak load hour does not affect the transmission costs  
16 allocated to PSNH. In its response to LCC 1-009, PSNH acknowledged that the Company's RNS  
17 load is based on customers' hourly consumption during PSNH's monthly peak load hour and is a  
18 different measure than the kVA demand used by PSNH to calculate transmission demand charges  
19 for its large customers.

20 **Q. Please explain why this discrepancy poses an issue.**

21 A. PSNH's transmission rates fail to create strong connections to the Company's underlying  
22 cost of providing transmission service. Its largest customers thus lack a sufficient incentive to

1 reduce their contribution to peak grid demand. Without such an incentive, PSNH's grid will be  
2 suboptimal and inefficient, and its service pricing will not reflect its actual costs. Consistent with  
3 the State's "Restructuring Policy Principles," specifically that "services and rates should be  
4 unbundled to provide customers clear price information on the cost components of generation,  
5 transmission, distribution, and any other ancillary charges" (RSA-F:3 III) and that "[c]ustomers  
6 should expect to be responsible for the consequences of their choices" (RSA-F:3 II), just and  
7 reasonable rates should send customers a clear price signal that incentivizes a customer to reduce  
8 its grid demand during PSNH's monthly peak load hour and thereby reduce the transmission cost  
9 allocated to PSNH. Such rates must also be consistent with additional Restructuring Policy  
10 Principles, including providing benefits to consumers (RSA-F:3 VI), environmental improvements  
11 (RSA-F:3 VIII), supporting renewable energy resources (RSA-F:3 IX), and energy efficiency  
12 (RSA-F:3 X).

13 This outcome is not achieved under PSNH's existing transmission rate design for its large  
14 customers, which 1) utilizes a single 30-minute demand reading measured across an on-peak  
15 period that includes more than 33% of hours each month, far broader than the single monthly peak  
16 load hour when transmission costs are actually incurred by PSNH; 2) utilizes kVA demand units  
17 rather than kW demand units, which ISO New England uses for measuring PSNH's coincident  
18 peak load obligations, and 3) examines the customer's demands over the prior 11 months that have  
19 nothing to do with a customer's grid demand during PSNH's peak load hour in the current month.  
20 This formula is disconnected from what actually drives transmission costs for PSNH, a customer's  
21 average grid demand during the Company's peak monthly load hour.

1 Table 4 below highlights this disconnect by revisiting UNH’s Rate B account example. Table  
 2 4 compares what UNH was billed for Backup Contract Demand in 2023 versus what the onsite  
 3 generation produced and delivered to UNH’s campus during PSNH’s monthly peak load hours in  
 4 2023, thereby reducing UNH’s grid demand in that hour.

5  
 6 Table 4. Rate B Account Example: 2023 Billed Demand vs. Onsite Generation During CP Hour

Month	Backup Contract Demand Billed kW	Onsite Generation During PSNH’s Monthly Peak Load Hour (kW) <sup>9</sup>
January	7,889	7,793
February	7,889	8,496
March	7,889	7,841
April	7,889	7,249
May	7,889	0
June	7,889	5,827
July	7,889	7,282
August	7,889	7,284
September	7,889	6,859
October	7,889	7,701
November	7,889	8,143
December	7,889	8,077
TOTAL	94,668	82,552

7  
 8 Table 4 shows that even though UNH’s onsite generation substantially reduced the campus’  
 9 grid demand during PSNH’s peak load hour in each month of 2023, by 6,879 kW per month on  
 10 average and by over 82,000 kW in total across the 12 months, PSNH still assessed the Rate B  
 11 account substantial demand charges. While UNH’s onsite generation helped PSNH avoid  
 12 incurring transmission expenses by reducing campus grid demand during these 12 monthly peak  
 13 load hours throughout 2023, UNH was charged 7,889 kW in Backup Contract Demand each

<sup>9</sup> The timestamp of PSNH’s monthly peak load hour in each month of 2023 is based on Attachment 1 of PSNH’s response to LCC 1-015: 1/25/2023, 5-6 P.M.; 2/3/2023, 6-7 P.M.; 3/7/2023 6-7 P.M.; 4/14/2023, 5-6 P.M.; 5/31/2023, 6-7 P.M.; 6/26/2023, 5-6 P.M.; 7/6/2023, 5-6 P.M.; 8/21/2023, 5-6 P.M.; 9/7/2023, 5-6 P.M.; 10/4/2023, 5-6 P.M.; 11/29/2023, 5-6 P.M.; 12/7/2023, 5-6 P.M.

1 month. It does not make sense for UNH to be charged the same amount whether or not its  
2 performance helped PSNH reduce its share of regional transmission costs.

3 Examining the Rate LG account serving UNH’s campus, Table 5 shows that the account  
4 incurred significantly higher billed demand for transmission charges compared to the account’s  
5 actual grid demand during PSNH’s monthly peak load hour in each month throughout 2023.

6  
7 Table 5. Rate LG Account Example #1: 2023 Billed Demand vs. Actual Demand During CP Hour

Month	Maximum Demand Billed kVA	Grid Demand During PSNH’s Monthly Peak Load Hour (kW) <sup>10</sup>
January	2,770	521
February	2,770	374
March	2,770	607
April	2,770	133
May	2,770	5,704
June	2,770	63
July	3,952	1,277
August	2,657	638
September	4,283	4,172
October	2,626	1,271
November	2,626	305
December	2,626	300
TOTAL	35,390	15,365

8  
9 Table 5 shows that the account was billed over 35,000 kVA in transmission demand across  
10 2023, while the account’s actual CP grid demand totaled roughly 15,000 kW across the 12 months.  
11 Again, it does not make sense to charge a customer for transmission demand in an amount that is  
12 over twice its actual contribution to PSNH’s transmission expense from ISO, let alone one stated  
13 in a different billing determinant. This discrepancy between billed transmission demand and

<sup>10</sup> The timestamp of PSNH’s monthly peak load hour in each month of 2023 is based on Attachment 1 of PSNH’s response to LCC 1-015: 1/25/2023, 5-6 P.M.; 2/3/2023, 6-7 P.M.; 3/7/2023 6-7 P.M.; 4/14/2023, 5-6 P.M.; 5/31/2023, 6-7 P.M.; 6/26/2023, 5-6 P.M.; 7/6/2023, 5-6 P.M.; 8/21/2023, 5-6 P.M.; 9/7/2023, 5-6 P.M.; 10/4/2023, 5-6 P.M.; 11/29/2023, 5-6 P.M.; 12/7/2023, 5-6 P.M.

1 UNH's contribution to PSNH's monthly peak load hour will be exacerbated as UNH brings its  
2 TES tank online and operates the system to try to reduce the campus' grid demand during hot  
3 summer afternoon and early evening hours throughout the cooling season. Under PSNH's current  
4 transmission rate design, the TES tank would have to operate across all on-peak hours every  
5 business day, more than 33% of hours in the month, to give UNH a realistic opportunity to reduce  
6 its transmission demand charge.

7           This broad set of hours has no bearing on the costs PSNH is incurring to serve its customers.  
8 The TES tank has not been sized to operate across 13 hours (i.e., 7 A.M. to 8 P.M.) in a day since  
9 that would be technically impractical with sizing limitations and an inefficient use of capital  
10 investment. In its response to LCC 1-011, PSNH argues that because Rate LG and Rate B  
11 transmission costs are recovered via demand charges, customers are incentivized to minimize the  
12 maximum demands placed on the transmission system. This statement ignores the trailing 11-  
13 month demand lookback and the reality of how broad PSNH's daily on-peak period is.

14 **Q. Does this same issue and concern apply to the other Consortium members?**

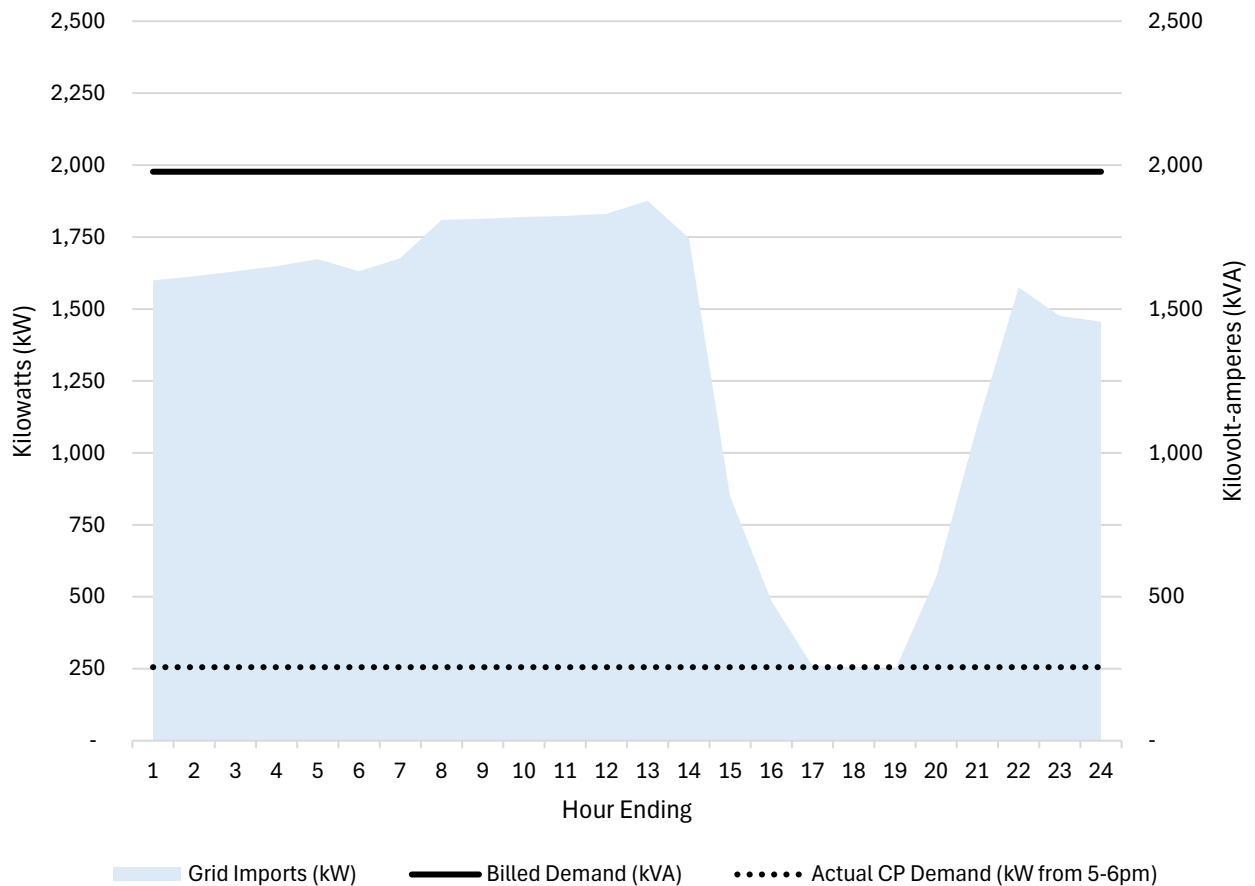
15 A. Yes. While the other Consortium members do not currently have onsite generation or a  
16 TES, these customers can actively manage their grid demand during PSNH's monthly peak load  
17 hour through changes in operating schedule, scheduled maintenance, and/or manual load  
18 curtailment. While these types of demand management actions may not occur in every month,  
19 there is still substantial value to PSNH and other ratepayers if these load reductions occur under  
20 peak summer conditions that currently drive whether PSNH's transmission planning team believes  
21 the system needs to be expanded and that determine if ISO New England's planning team believes  
22 the region's installed capacity requirements need to be increased for the capacity market.



1 **Q. Does this concern hold for the other Consortium members as well?**

2 A. Yes. Figure 2 presents a Consortium member's grid demand on September 7, 2023, the day  
3 on which PSNH recorded its monthly peak load hour (5 P.M. to 6 P.M.) for September 2023.

4  
5 Figure 2. Illustration of Large Customer's Actual Grid Demand vs. Billed Transmission Demand



6  
7 Figure 2 shows that this customer had a grid demand of approximately 250 kW during the 5  
8 P.M. to 6 P.M. hour but saw a billed transmission demand of nearly 2,000 kVA on its PSNH bill  
9 covering this period due to an on-peak demand registered during a different day of this billing  
10 cycle. This example highlights once again a core disconnect between customer loads during  
11 PSNH's peak load hour and how PSNH determines transmission billing units for large customers.

1 **Q. Does Eversource believe that its current rate design provides an appropriate price**  
2 **signal to incentivize Rate LG and Rate B customers to reduce their grid demand during**  
3 **the Company’s peak load periods?**

4 A. Apparently yes. In its response to LCC-012, PSNH argues that active demand response  
5 programs currently offered through the Company’s energy efficiency portfolio provide financial  
6 motivation for customers to reduce load during ISO system peaks even in the absence of time  
7 differentiated rates.

8 This statement is striking. PSNH acknowledges that its transmission rates do not reflect  
9 cost causation, yet the Company contends that it is acceptable to maintain this status quo since  
10 demand management actions that are beneficial to all ratepayers can be achieved by subsidizing  
11 such actions through the Company’s energy efficiency program. Instead of trying to solve a  
12 “missing money” problem for incentivizing demand management, using other program funds,  
13 PSNH could simply align its transmission rate design based on cost causation principles such that  
14 the customers that reduce their grid demand during PSNH’s monthly peak load hour directly  
15 benefit from doing so.

16 **Q. Is PSNH’s transmission rate design for Rate LG customers and Rate B customers easy**  
17 **to understand for customers?**

18 A. No. The multi-pronged formula for calculating a customer’s billed transmission demand is  
19 complex, even for larger sophisticated customers like the Consortium members. The current rate  
20 design requires a customer to revisit billing outcomes over the prior 12 months, and to complete  
21 the complex calculation each time the customer reviews its bill. It is difficult to see how this current  
22 rate design meets the objective of simplicity for customers.

1 **Q. What do you propose as a solution to address these concerns?**

2 A. PSNH should adopt an optional CPT rate option that allows any Rate LG customer or Rate  
3 B customer to opt into a CPT rate option starting with the October 2025 billing cycle. Following  
4 the account's enrollment, a participating customer's monthly transmission demand charge would  
5 be based on the customer's average 60-minute grid demand (measured in kilowatts) registered  
6 during PSNH's monthly peak load hour as determined for the purposes of reporting RNS loads to  
7 ISO New England.

8 For participating Rate B customers, Backup Contract Demand would be eliminated and  
9 removed from the tariff. For a situation like UNH's where there is a Rate B account and a Rate LG  
10 account serving the same electrical feed from PSNH to the customer, the customer's total grid  
11 demand measured during PSNH's monthly peak load hour would be assessed as the transmission  
12 demand charge on the Rate LG account's bill.

13 Implementation for the October 2025 billing cycle aligns with when PSNH is expected to  
14 update its transmission rates under its annual Transmission Cost Adjustment Mechanism and  
15 would give the Company approximately 75 days to prepare for implementing the CPT rate option  
16 assuming that the Commission issues a final order in the proceeding by July 15, 2025 as  
17 contemplated in the current procedural schedule.

18 To enroll, customers would send a written e-mail notification to PSNH specifying the  
19 account number(s) that they want to enroll in the CPT rate option, and PSNH would enroll the  
20 account(s) in the next monthly billing cycle, assuming that notice is received at least 14 days prior  
21 to the start of the billing cycle. PSNH would increase the monthly customer charge of the  
22 participating customers by \$100 per month to recover the costs of manual bill processing.

1 **VI. PRECEDENT FOR THE CPT RATE OPTION**

2 **Q. Is there precedent for the recommended solution being implemented in New England?**

3 A. Yes. The CPT rate option has been approved and/or agreed to be implemented in New  
4 Hampshire, Maine, and Massachusetts. There is a well-established track record of large customers  
5 taking service under this rate design, with high levels of satisfaction among these customers.

6 In New Hampshire, Liberty Utilities has agreed to implement a CPT rate option for its large  
7 customers if the Commission approves the recently filed settlement agreement in Docket No. DE  
8 23-039. In that proceeding, Dartmouth College advocated for the introduction of a CPT rate option  
9 to support the College's upcoming effort to implement a TES tank that is similar to UNH's project  
10 and will enable shifting campus electric load to off-peak hours. Liberty recognized the improved  
11 efficiency and equity properties offered by the CPT rate option, and agreed to implement the rate  
12 design for its large customers in the Rate G-1 class on a voluntary opt-in basis. A copy of the  
13 settlement agreement, which includes a description of Liberty's CPT rate option, is provided for  
14 reference in Exhibit LCC-2.

15 In Western Massachusetts, Eversource has used a CPT rate design to assess transmission  
16 charges to its large customers since 2012. The CPT rate option is automatically applied to all  
17 customers in Eversource's T-5 rate class, which includes customers with maximum demand  
18 greater than 2,500 kW. Each T-5 customer is assessed a transmission demand charge each month  
19 based on the customer's average 60-minute grid demand (measured in kW) during Eversource's  
20 peak load hour in the prior month as measured across the Company's legacy Northeast Utilities

1 service territory.<sup>11</sup> This rate design was approved by the Massachusetts Department of Public  
2 Utilities (“D.P.U.”) for all T-5 customers in D.P.U. 10-70-B. A copy of Eversource’s Rate T-5  
3 service tariff is provided for reference in Exhibit LCC-4.

4 In November 2022, the D.P.U. approved an expansion of the CPT rate design to  
5 Eversource’s service territory in Eastern Massachusetts. This expansion was driven by a variety of  
6 large customers throughout Eastern Massachusetts, including the University of Massachusetts  
7 System and The Energy Consortium<sup>12</sup>, strongly advocating for a CPT rate option as part of  
8 Eversource’s electric distribution rate case in D.P.U. 22-22.

9 Starting in January 2023, all Eversource Rate G-3 customers across Massachusetts can  
10 utilize the CPT rate option on a voluntary opt-in basis. Participating G-3 customers in Eastern  
11 Massachusetts are assessed a transmission demand charge each month based on a customer’s  
12 average 60-minute grid demand (measured in kW) during Eversource’s peak load hour in the prior  
13 month as measured across the Company’s legacy NSTAR Electric system<sup>13</sup>. A copy of  
14 Eversource’s Rate G-3 tariff for the utility’s three service footprints in Eastern Massachusetts  
15 (Greater Boston, Cambridge, and South Shore) is provided in Exhibit LCC-4.

16 In September 2022, the Maine Public Utilities Commission approved a CPT rate option for  
17 all non-residential rate classes served by Central Maine Power Company (“CMP”). While CMP’s

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<sup>11</sup> The legacy Northeast Utilities service territory includes Eversource’s service territories in Western Massachusetts (Western Massachusetts Electric Company), New Hampshire (PSNH), and Connecticut (Connecticut Light & Power).

<sup>12</sup> The Energy Consortium’s members include Harvard University, Mass General Brigham, Brandeis University, Massachusetts Water Resources Authority, Tufts University, Acushnet Company, Massachusetts Institute of Technology, UMass Chan Medical School, Procter & Gamble, and Beth Israel Lahey Health. Additional information on The Energy Consortium and its members can be found online at <https://www.tec-ma.org/>.

<sup>13</sup> The legacy NSTAR Electric system includes Eversource’s service territories in Greater Boston, Cambridge, and the South Shore.

1 sub-transmission and transmission level customers have had a CPT rate design for decades, any  
2 distribution-level customer (i.e., below 34.5 kV) can now utilize this option. This decision was  
3 made in Docket No. 2021-00325, a rate design proceeding called for by the Maine Legislature to  
4 examine whether transmission and distribution rate designs in Maine fully support the state’s  
5 electrification goals. CMP voluntarily agreed to implement the CPT rate option, appreciating the  
6 cost causation principles the rate offers as Maine ramps up its electrification efforts in the coming  
7 years.

8 Starting in July 2023, any non-residential CMP customer has been able to opt into the CPT  
9 rate option known as Rate B-CPT.<sup>14</sup> Participating customers are assessed a monthly transmission  
10 demand charge based on their average 60-minute grid demand (measured in kW) during CMP’s  
11 peak load hour in the prior month as measured across the utility’s service territory in southern,  
12 central, and western Maine. A copy of CMP’s Rate B-CPT tariff is provided in Exhibit LCC-4.

13 In September 2024, the D.P.U. approved a CPT rate option for National Grid’s large  
14 customers in Massachusetts. Starting in April 2025, any Rate G-3 customer in Massachusetts will  
15 be able to voluntarily opt into the CPT rate option. Participating G-3 customers will be assessed a  
16 transmission demand charge each month based on a customer’s average 60-minute grid demand  
17 (measured in kW) during National Grid’s peak load hour in the prior month as measured across  
18 the utility’s Massachusetts service territory. The approval of the CPT rate option was made in  
19 D.P.U. 23-150, National Grid’s most recent electric distribution rate case.

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<sup>14</sup> CMP’s non-residential customers with maximum demand over 20 kW fall into one of three rate classes: Medium General Service (maximum demand between 20 kW and 400 kW), Intermediate General Service (maximum demand between 400 kW and 1,000 kW), or Large General Service (maximum demand over 1,000 kW).

1 **Q. In approving these CPT rate options, did the regulator(s) opine on the benefits of**  
2 **utilizing a CPT rate design to assess transmission charges to large customers?**

3 A. Yes. In its 2012 order approving the CPT rate design for all T-5 customers in Western  
4 Massachusetts, the D.P.U. recognized that the rate design follows cost causation principles and  
5 would incentivize efficient customer behavior that benefits all ratepayers by reducing customer  
6 contributions to grid demand during periods of coincident peak demand on the system:

7 The Department finds that introduction of a new transmission rate redesign, mandatory for the 20  
8 Rate T-5 customers only, would provide an opportunity for those customers to achieve lower  
9 transmission costs, would result in minimal, if any, shifting of transmission costs to other electric  
10 utilities, would not be unduly burdensome for the Company to administer, and would provide  
11 useful data for the Department to evaluate whether implementing a rate redesign for all interval-  
12 metered customers statewide is in the public interest. Further, this transmission rate design would  
13 be consistent with the ratemaking principle of cost causation (i.e., rates for service reflect the  
14 costs that are actually “caused” or imposed by the customers who must pay the rates).<sup>15</sup>

15  
16 Transmission costs are incurred based on peak demands on the system and are priced at the  
17 wholesale level based on peak demand. Recovering transmission costs through the demand  
18 charge should provide customers with an incentive to reduce monthly peak demand, thereby  
19 potentially reducing transmission costs for all customers.<sup>16</sup>  
20

21 In D.P.U. 22-22, the D.P.U. required Eversource to expand the CPT rate option to large  
22 customers in Eastern Massachusetts, making a similar finding that a CPT rate design for  
23 transmission charges creates a price signal that meets rate design goals of efficiency, fairness, and  
24 simplicity. The D.P.U. also concluded that the CPT rate option would help support rate  
25 affordability over time by leading to efficient expansion of the transmission system:

26 The Department has previously stated that pricing transmission service based on a customer’s use  
27 at the time of system peak rather than based on the customer’s peak, which may not coincide with  
28 the system peak, provides a more equitable assignment of cost responsibility. The 12 CP billing

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<sup>15</sup> Order on Western Massachusetts Electric Company’s Compliance Filing on Transmission Service Pricing; September 19, 2012; D.P.U. 10-70-B, page 7.

<sup>16</sup> Order on Western Massachusetts Electric Company’s Petition for Approval of a General Increase in Electric Distribution Rates and a Revenue Decoupling Mechanism; January 31, 2011; D.P.U. 10-70, page 328.

1 for Rate T-5 is one method of efficiently assigning accurate costs to those customers who utilize  
2 the transmission system during peak periods. While customer behavior benefits from 12 CP may  
3 not result in lower system costs immediately, lower system peak usage will eventually be  
4 reflected in transmission system peak forecasts, lowering costs for all customers.  
5

6 In the Company's last base distribution rate case, the Department directed the Company to  
7 evaluate the further expansion of coincident peak transmission billing to NSTAR Electric  
8 customers; however, the Company did not undertake any such evaluation that could assist the  
9 Department in weighing the merits of the proposed use of 12 CP transmission billing for all large  
10 customers. As the Company has made and continues to make efforts toward rate alignment, and  
11 as 12 CP billing supports numerous rate-making goals such as simplicity and efficiency, the  
12 Department finds that it is reasonable and appropriate for the Company to expand optional 12 CP  
13 transmission billing to all large general service customers.<sup>17</sup>  
14

15 In D.P.U. 23-150, the D.P.U. required National Grid to make the CPT rate option available  
16 to its large customers throughout Massachusetts on a voluntary opt-in basis. In its decision, the  
17 D.P.U. focused on the CPT rate option's efficiency and fairness benefits:

18 In NSTAR Electric's most recent base distribution rate case, the Department approved the  
19 expansion of coincident peak transmission billing for large C&I customers. The Department  
20 determined that pricing transmission service based on a customer's use at the time of system peak  
21 rather than based on the customer's peak, which may not coincide with the system peak, provides  
22 a more equitable assignment of cost responsibility. In the instant case, the Department is  
23 persuaded that an opt-in coincident peak billing rate for transmission can help accelerate storage  
24 adoption and deliver load reductions during peak times. Therefore, such a rate design meets the  
25 goal of efficiency and helps supports the Commonwealth's decarbonization policies.<sup>18</sup>  
26 Accordingly, the Department directs the Company to implement a coincident peak billing option  
27 for transmission service on an opt-in basis for large C&I customers.  
28

29 **Q. Is there a precedent for Eversource offering a CPT rate design for standby customers**  
30 **that are similar to PSNH's Rate B customers in New Hampshire?**

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<sup>17</sup> Order on NSTAR Electric Company's Petition for Approval of a General Increase in Base Distribution Rates for Electric Service and a Performance Based Ratemaking Plan; November 30, 2022, D.P.U. 22-22, pages 460-461.

<sup>18</sup> Order on Massachusetts Electric Company's and Nantucket Electric Company's Petition for Approval of a General Increase in Base Distribution Rates for Electric Service, a Performance-Based Ratemaking Plan, and a Capital Recovery Mechanism; September 30, 2024, D.P.U. 23-150, page 517.



1 A. Yes. As part of its order in D.P.U. 22-22, the D.P.U. allowed large customers in  
2 Eversource’s Cambridge service area with onsite generation to opt into the CPT rate option. At the  
3 time, Massachusetts Institute of Technology (“MIT”) was the only remaining customer taking  
4 service under Eversource’s Standby Service Rate SB-1 and Supplemental Service Rate SS-1.  
5 According to the Rate SB-1 tariff, Standby Service is intended to deliver to the customer a  
6 replacement supply of power when the customer’s alternative source of power is either partially  
7 or totally unavailable. These outdated rate designs were applied to MIT’s main campus account in  
8 a similar way that PSNH currently applies Rate B and Rate LG to UNH’s main campus account in  
9 Durham. Copies of Eversource’s SB-1 and SS-1 tariffs are included in Exhibit LCC-4.

10 **Q. Why do you recommend that PSNH implement the CPT rate option for Rate LG and**  
11 **Rate B customers on a voluntary, opt in basis?**

12 A. Implementing the CPT rate option on a voluntary, opt-in basis is a prudent, measured first  
13 step in moving PSNH’s transmission rate design for larger customers towards the Company’s  
14 actual cost of providing transmission service. By allowing Rate LG and Rate B customers to opt  
15 into the CPT rate design, PSNH would be removing a key obstacle for customers interested in  
16 proceeding with demand management measures immediately, while providing its other large  
17 customers time to review the CPT rate option in more detail. Furthermore, we expect voluntary  
18 enrollment will initially limit Eversource’s need for manual billing and will provide time for the  
19 Company to assess and implement an automated billing solution for CPT demand charges.

20 In addition, PSNH does not currently share its hourly RNS load data with its customers.  
21 To our knowledge, this case is the first time in recent memory that PSNH has provided its hourly

1 RNS load data<sup>19</sup>, which is necessary for Rate LG and Rate B customers to evaluate when PSNH's  
2 monthly peak load hour could occur based on time of day, temperature, and day of the week.

3 To help its customers evaluate the utility's RNS load profile and to consider the  
4 effectiveness of various solutions to help reduce grid demand during the probable peak window,  
5 CMP voluntarily posts its hourly RNS load data publicly on the company's website.<sup>20</sup> CMP  
6 typically updates the hourly RNS dataset two to three days after an operating day. While CMP's  
7 large customers that utilize the CPT rate option cannot exactly predict CMP's monthly peak load  
8 hour in advance, the availability of this data allows customers to make an educated guess on when  
9 the peak load hour will likely occur. Until PSNH provides its RNS data publicly like CMP does,  
10 it makes sense for the CPT rate option to remain voluntary opt-in.

11 **Q. Is it unduly burdensome for PSNH to administer billing for a CPT rate option?**

12 A. No. While PSNH would need to manually bill the CPT rate option in the near term,  
13 participating customers would pay an incremental fee to cover the Company's cost of manual bill  
14 processing. Eversource has been billing the CPT rate option in Western Massachusetts for over a  
15 decade without major issues and has been billing the CPT rate option in Eastern Massachusetts  
16 for over two years.

17 PSNH appears to ignore this in its response to LCC 1-019, where PSNH states that the  
18 Company's billing systems don't have the capability to bill Rate LG or Rate B monthly  
19 transmission demand charges based on a customer's average 60-minute grid demand during  
20 PSNH's monthly peak load hour. According to PSNH, "this would be complex and to do this

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<sup>19</sup> Eversource provided this data in response to LCC 1-016.

<sup>20</sup> <https://www.cmpco.com/w/rns-downloads>

1 would require an entirely manual effort that would be limited in capabilities, unable to provide a  
2 consistent positive customer experience via bill presentment, payment or digital experience.”

3 **Q. Is this claim supported by customers’ actual experience with the CPT rate option in**  
4 **other jurisdictions?**

5 A. No. As evidenced within PSNH’s sister companies, large customers in Massachusetts  
6 have high levels of satisfaction with the CPT rate option. If prior roll-outs of the CPT rate option  
7 had been such a disaster for customers, as contended by PSNH, large customers would not have  
8 strongly advocated for the expansion of the CPT rate option as observed in Eversource’s electric  
9 distribution rate case in D.P.U. 22-22 and National Grid’s electric distribution rate case in D.P.U.  
10 23-150. As previously noted, Pike Industries and Hancock Lumber are currently utilizing the  
11 CPT rate option for their CMP accounts and are highly satisfied with the billing experience to  
12 date. Neither entity would be participating in the Consortium if they had a negative experience.

13 **Q. What are you proposing as the incremental billing fee for participating customers?**

14 A. \$100 per month. In its response to LCC 1-018, PSNH indicated that the incremental cost  
15 to manually bill customers is approximately \$90 per bill. This amount would be added to  
16 PSNH’s fixed monthly customer charge for participating customers.

17 **Q. How does this proposed fee compare to other utilities’ comparable billing fees?**

18 A. In Western Massachusetts, Eversource does not charge its T-5 customers an incremental  
19 billing fee. In Maine, CMP similarly does not charge an incremental billing fee to its non-  
20 residential customers that opt into the Company’s CPT rate option.

21 In D.P.U. 22-22, the D.P.U. allowed Eversource to assess a monthly \$500 bill preparation  
22 fee for its large customers in Eastern Massachusetts who opt into the CPT rate option. The \$500

1 fee will remain in place until Eversource has transitioned to its new billing system that allows  
2 automated billing of the CPT rate option. In D.P.U. 23-150, the D.P.U. allowed National Grid to  
3 assess a monthly \$155 bill preparation fee for its large customers in Massachusetts who opt into  
4 the CPT rate option. If the settlement agreement recently filed by Liberty Utilities in Docket No.  
5 DE 23-039 is approved by the Commission, Liberty would add a \$250 monthly billing fee for  
6 Rate G-1 customers that enroll in the CPT rate option. This added fee would only remain in  
7 effect through Liberty’s next electric distribution rate case in 2026.

8 **Q. Should PSNH be allowed to assess the added billing fee indefinitely?**

9 A. No. In its response to LCC 1-020, PSNH stated that Rate LG and Rate B are currently  
10 billed in the Company’s Large Power Billing (“LPB”) system which is on the Company’s IT  
11 roadmap for replacement. Automated CPT billing should be included in the LPB system design,  
12 and the proposed incremental billing fee for the CPT rate option should be eliminated once the  
13 LPB system is implemented and placed into service.

14 **Q. Should PSNH be allowed to cap initial enrollment in the CPT rate option?**

15 A. No. While Liberty Utilities is initially proposing to cap participation in its CPT rate  
16 option at 15 customers, this cap was put into place because Liberty will be filing another electric  
17 distribution rate case in 2026. As set forth in the settlement agreement in Docket No. DE 23-039  
18 included in Exhibit LCC-2, Liberty has agreed to offer Rate G-1 CPT as a permanent rate  
19 available to all G-1 customers on a voluntary, opt-in basis in the utility’s next general rate case.  
20 Eversource, National Grid, and CMP do not cap enrollment in their CPT rate options previously  
21 discussed.

1 Q. Does that conclude your testimony?

2 A. Yes.