Investigation of Energy Commodity Procurement (Renewable Portfolio Standard, Default Service Electric Power, Cost of Gas) Methodology and Process February 8, 2023 NHPUC Record Requests

Request 1-1: ELECTRIC – RENEWABLE PORTFOLIO STANDARDS (RPS)

a. The number of RECs and the associated total cost for each Rate Class (i.e., Residential/Small, Large C&I) used to meet the RPS requirements for each renewable energy source class (Class I non-thermal, Class I thermal, Class II, Class III, and Class IV) for each 6-month period over the last five years. Provide the information in live Excel format with a separate tab for each Rate Class.

b. For the requested data in part (a) above, please also indicate for each 6-month period over the last five years, what percentage of the RPS requirement was met through Alternative Compliance Payments.

Response:

Attachment 1-1 provides the total number of RECs purchased, the associated cost, and the percentage of the RPS requirement met with Alternative Compliance Payments for each renewable energy type (Class I non-thermal, Class I thermal, Class II, Class III, and Class IV) over the past five years. The Company sourced the requested cost and compliance data from its annual compliance filings for the years 2018 through 2021, as summarized in Tab 1 of Attachment 1-1. As explained below, the Company estimated its costs for 2022. The Company allocated the annual compliance filing data to months then compiled the data by six-month periods corresponding to its Default Service periods. Tab 6 of Attachment 1-1 shows the allocation calculations and Tab 2 shows total company data for the six-month Default Service periods. Tab 3 through Tab 5 show the allocation of RECs and cost for the Default Service periods to customer Rate Classes (Residential, Small C&I, Large C&I).

The Company offers the following comments to put the data provided into context. Compliance with the RPS requirements occurs at the Company level, not at the Rate Class level, which is why the unit cost for each REC type is the same for all customer Rate Classes. RECs are applied toward RPS compliance annually, not every six months. Additionally, actual REC costs are unknown at the time the Company must set its Default Service rates, so the Company uses estimated REC costs to set the RPS component of its Default Service rates, which also reflect prior period adjustments. In terms of Attachment 1-1, actual RPS compliance costs for the 2022 compliance year

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are not yet known. Therefore, the Company has provided an estimate of 2022 costs using REC broker pricing to estimate the cost of remaining REC purchases needed to satisfy its Renewable Portfolio Standard obligations.

Person Responsible: Jeffrey M. Pentz

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I. ELECTRIC – RENEWABLE PORTFOLIO STANDARDS (RPS)

Request 1-2:

Separate from question #5 below, please provide the 6-month average default energy service price for the Residential rate class over the last 5 years along with the corresponding: (i) RPS portion of the average default energy service price; and (ii) the Administrative and General portion of the default service price. Please provide the requested data in live Excel format.

Response:

Please refer to Request 1-2 Attachment 1, in Excel, for a table showing Unitil Energy Systems, Inc.'s fixed default service charge for the residential class over the period December 2017 through November 2022. The table provides the fixed RPS rate for each six-month period as well as each six-month period's Residential Class Fixed Power Supply Charge broken down into its components.

Person Responsible: Robert Furino

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II. ELECTRIC – PROCUREMENT PROCESS

Request 1-3: Laddering

Please comment on whether utilities should be provided flexibility to determine at any time, with proper notice to the Commission, a switch from laddering to full requirement (and vice-versa) based on future price trends to lower energy service costs for ratepayers. Participants are welcome to offer recommendations based on hypothetical scenarios.

Response:

In an environment of open retail competition, the investor owned utilities should maintain a standard and consistent procurement process that helps to establish market signals so that customers and market stakeholders will be not be surprised by sudden changes. Unless a utility becomes the sole supplier for a given segment of customers, utilities should not be the parties attempting to leverage market conditions in order to manage price. Rather, retail suppliers, customers and aggregators should be the parties managing their market commitments in order to access favorable prices.

The key reason for this is that utilities, as a supplier of last resort, are subject to customer migration and therefore cannot commit to specific or defined volumes they would purchase in an environment of open retail competition. In contrast, individual customers or aggregations can agree to contractual minimum take volumes and defined supply periods, with associated contractual provisions for any changes defining the rights and obligations of the customer and the retail supplier.

Due to customer migration risk, utilities purchase Default Service supply on a "load following" basis, meaning the wholesale supplier is responsible to provide fixed price service regardless of the eventual level of Default Service load (the supplier assumes volume risk associated with customer migration). Migration risk increases as utility Default Service prices move away from the market prices. Increasing the length of the service term will also have the effect of increasing migration risk. High migration risk results in inefficient pricing as suppliers command increasing risk premiums.

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A note on terminology. Based on context, the question implies that "full requirements" means wholesale supply for 100 percent of Default Service load requirements, which would not allow for laddering since laddering requires the purchase of multiple, smaller portions of supply service (say two tranches of 50 percent) at different times. However, the Company understands "full requirements" service to be the obligation of a supplier, the load serving entity in the ISO New England market, to provide all market products associated with a given load obligation, regardless of the portion of load requirements being provided. For example, a load serving entity may serve only 25 percent of a load obligation, but they are responsible to provide all market products (including Energy, Capacity and Ancillary such as Reserves and Frequency Regulation) for the load they serve.

Person Responsible: Robert S. Furino

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II. ELECTRIC – PROCUREMENT PROCESS

Request 1-4: Tranches

Are there ways to approach tranches (e.g., number of procurement periods, percentage of load per tranche, number of tranches etc.) differently so that the default service procurement produces more competitive prices? Please provide detailed recommendations as appropriate.

Response:

Utility procurement design should be straightforward and structured to avoid high levels of customer migration risk, which would result in higher prices as suppliers attempt to cover the risk. Longer procurement terms and utility prices that differ significantly from market prices will increase migration risk. Despite the occasional impacts of volatile markets, which can be significant, the current process of procuring 100 percent of load requirements every six months strikes a reasonable balance in term and consistency with market. A viable alternative worth considering is the Massachusetts model, where 50 percent of load requirements for staggered twelve-month periods are purchased every six months. This approach adds term and a moderate level of disconnect from market prices, but avoids the risk of 100 percent of Default Service pricing being based a single purchase. Given migration risk concerns, which appear to be increasing with momentum building for Community Power Aggregation, the Company would not recommend procurement terms greater than one year. One possible alternative may be to adapt the Massachusetts approach to a shorter horizon. For example, utilities could purchase 50 percent of load requirements for staggered six-month periods that are purchased every three months. This would double the number of procurements and regulatory filings¹, but would provide some diversity that would reduce the likelihood of all supply being purchased during peak price market conditions. A shorter procurement term would also reduce the aggregate dollar value of the transaction to the wholesale supplier, which might reduce interest in bidding at least for the smaller utility loads.

¹ Note that prior to 2013, New Hampshire utilities purchased Default Service every three months for their large customers. This practice is still in place in Massachusetts.

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Person Responsible: Robert S. Furino

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II. ELECTRIC – PROCUREMENT PROCESS

Request 1-5: Procurement Practices

Utilities are requested to comment on whether (i) there may be changes required to the electricity procurement processes to better accommodate direct electric purchases from the ISO-NE, as was recently approved by the Commission for an electric utility; (ii) all else equal, utilities expect competitive procurement results to change as a result of this authorization?

Response:

- (i) The Company believes that the Commission should authorize utilities to self-supply via direct purchases from the ISO-NE markets in the event of a failed solicitation¹ without further administrative or regulatory process beyond what is currently undertaken for approval of Default Service rates. To facilitate this, a standard approach to retail rate making would be required. For example, the Company's Massachusetts electric distribution affiliate, Fitchburg Gas and Electric Light Company (FG&E), is currently serving all of its Default Service customers via direct purchases from ISO-NE following a failed solicitation in September 2022. FG&E provided initial retail rates for the full Default Service supply period based upon forward energy market prices, capacity prices and an adder to cover ancillary services. In order to balance price stability and avoid large over- or under-recoveries, the retail rates are subject to adjustment monthly if the wholesale prices change over the period by more than 20 percent.²
- (ii) The prospect of utilities being able to self-supply directly from the ISO-NE markets may encourage more competitive pricing from wholesale suppliers.

Person Responsible: Jeffrey M. Pentz

¹ A "failed solicitation" would occur when a utility (1) receives no bids or (2) receives bids it deems uncompetitive based on analysis of forward market prices.

² See D.P.U. 22-BSF-A4, Order on Petition Of Fitchburg Gas And Electric Light Company (September 14, 2022).

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II. ELECTRIC – PROCUREMENT PROCESS

Request 1-6: Procurement Practices

Utilities are requested to provide the following:

a. Comment on whether, similar to Cost of Gas filings, long-term, short-term, and peaking contracts could be designed optimally, instead of buying load every six months.

b. Given that the current practice of using a 6-month weighted average prices may not give the exact price signals, e.g., for better conservation of energy during peak load periods, please provide an alternative approach, if any, that could potentially help generate better market signals. Please share the pros and cons of the proposed approach.

Response:

a. It is possible for utilities to combine purchases with different term durations. For example, in the early days following the Company's power supply portfolio divestiture, the Company purchased supply under a series of four contracts, each for 25 percent of load requirements. Two of these contracts were for staggered three-year terms and two were for staggered one-year terms. However, as noted in other responses, term lengths longer than one year may introduce too much migration risk. Similarly, tranches as small as 25 percent may be too small to attract significant market attention for the small utilities.

The Company strongly recommends against an approach in which a utility purchases unique market products as an alternative to full requirements service (see note on terminology in response to Request 1-3). For example, it may the case that a utility could purchase base load supply from a nuclear generator, peaking supply from an oil unit, and possibly a separate capacity purchase and then piece them together. This would be contrary to the intent of electric restructuring, which took the utilities out of active power supply management and introduced retail competition. Such an approach would have the utilities resume active supply management. In the event of a failed solicitation, the utilities can

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receive full requirements service at market prices, albeit unknown in advance and not hedged, directly from ISO-NE.

b. The Company currently has time-of-use rates. Please see Unitil Energy Systems. Inc., NHPUC No. 3 – Electricity Delivery, Third Revised Page 5-a ("Summary Of Whole House Residential Time of Use Rates and Electric Vehicle Rates"); see also DE 21-030, <u>Unitil Energy Systems, Inc.</u>, Order Approving Settlement at 26-27 (May 3, 2022); DE 20-170, <u>Electric Distribution Utilities</u>, Order Approving Time-of-Use Rates at 24-26 (April 7, 2022). Retail time-of-use price signals that promote conservation during peak periods, for example, can be set independently from the procurement of power.

Person Responsible: Robert S. Furino

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II. ELECTRIC – PROCUREMENT PROCESS

Request 1-7: Procurement Practices

Utilities are requested to provide the following:

All utilities are requested provide 5-years historical data on prices secured through their RFP processes for each Rate Class (i.e., Residential/Small, Large C&I) along with: (i) monthly bid prices for each 6-month period; (ii) weighted average price used for the Default Energy Service Rate for the corresponding 6-month period; (ii) daily prices from the day-ahead market for the corresponding 6-month periods. Provide this data in two separate tabs using the following format in MS Excel:

Response:

Unitil procures default service for three distinct classes of customers; Residential, Small and Medium Commercial, and Large C&I. Attachment 1-7, an Excel file, provides three tabs for each corresponding customer group containing monthly bid prices, the weighted average price for the 6-month default service period, and estimated monthly market costs using both real time and day ahead market pricing. The fourth tab contains daily day-ahead and real-time market pricing with the associated customer group wholesale load volumes in kWh.

Bidders provide Full Requirements¹ pricing into their bid price which combines Energy, Capacity, and Ancillary service components for a future period. Providing a monthly market cost figure requires breaking out full requirements service components and using historical pricing data to recalculate an estimated monthly market price based on actual loads served. The monthly energy component is calculated by using a monthly load-weighted average price, and both Real-Time and Day-Ahead pricing are provided. Capacity costs are calculated by using the average monthly Peak Load Contribution factors along with actual Net Regional Clearing Prices. Ancillary Services are calculated using an adder equal to 2 percent of total Energy and Capacity costs. The Company derived the 2 percent adder from actual historical Ancillary Service costs incurred by the

¹ See response to Request 1-3.

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Company's Massachusetts affiliate, who has directly self-supplied it's large customer class since 2012.

Person Responsible: Jeffrey M. Pentz

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II. ELECTRIC – PROCUREMENT PROCESS

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Company's Massachusetts affiliate, who has directly self-supplied it's large customer class since 2012.

Person Responsible: Jeffrey M. Pentz

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III. GAS

Request 1-8:

a. Please provide the Company's portfolio (i.e., resource mix of spot purchases and all other purchases in percentages) and how it has changed over the past 5 years.

b. Please explain how each Company determines that the portfolio resource mix is optimal and produces lower Cost of Gas rates?

Response:

- a. Request 1-8 Attachment 1 provides the resource mix data requested. The Company calculated the resource mix percentage by dividing the annual projected volumes for each resource by the total annual projected volumes, inclusive of both New Hampshire and Maine. Annual projected volumes for resources were determined utilizing natural gas optimization software. Prior to this year, Northern utilized the Sendout® optimization model prior to the 2022-2023 gas year. The Company currently uses optimization model PLEXOS® for determining annual resource volumes. These figures are provided to the Commission in Northern's Annual Cost of Gas Filings and assume normal weather conditions. When preparing for each Winter Period, Northern seeks to replace spot purchases with peaking supplies in order to avoid relying on the availability of gas for spot purchases., However, Peaking supply resources, such as On-System and Off-System Peaking, Maritimes Delivered Baseload and PNGTS Delivered Baseload reflect the higher cost of New England-based supplies. These resources have been grouped into the Peaking category, which is summarized on the bottom. Reliance on Peaking Supplies has decreased over the past five years, with the percentage of total annual projected volumes declining from 20% to 2%. This has been offset by an increase in Pipeline resources, which increased from 51% to 71% over the same period.
- b. Northern establishes design day, cold snap and year criteria that the portfolio must be able to meet for system reliability purposes. As conditions move from normal to design weather conditions, utilization of Peaking increases more than increases in Pipeline and Storage capacity resources. Northern's portfolio must meet a wide range of outcomes, including extremely cold weather, as the public

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expects reliability as well as reasonable cost results. It is not possible to have a single portfolio that would be the lowest cost under all circumstances, as the lowest cost solution differs under different demand scenarios. Generally, Northern has maintained a strategy of portfolio improvements based on replacing New England delivered supplies (including On-System and Off-System Peaking as well as delivered baseload supplies) with capacity resources that access more liquid supply points. Portland XPress, Westbrook XPress and Atlantic Bridge capacity expansions each reduced reliance on these higher priced supplies. Northern determined that these expansion decisions lowered total portfolio costs by comparing the projected cost of these resources to continued reliance on the higher priced New England delivered supplies.

Person Responsible: Francis X. Wells

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III. GAS

Request 1-10:

Northern Utilities, on pg. 9 of its Technical Statement from 11/18/2022, suggested considering expanded methods of hedging as a tool to mitigate short-term gas price volatility in New England. Please explain what this means and how it could work.

Response:

As explained in Northern's Technical Statement, Northern currently utilizes a combination of underground storage and baseload pipeline purchases with NYMEX price locks to hedge its winter cost of gas.¹ The cost of gas in underground storage is fixed in advance of the winter season based on the historical cost of any gas remaining in storage at the end of the prior winter and the price of injections during the summer. The NYMEX portion of baseload pipeline purchases required to achieve the 75 percent Target Ratio are locked under four staggered monthly price locks entered into during June through September. As explained in Northern's most recent Cost of Gas proceeding, effective April 1, 2023, Northern's underground storage capacity will increase by 2 Bcf.² The increased storage will provide added dispatch flexibility and reduce the number of baseload contracts required. In summary, Northern currently uses physical gas purchases to implement Winter Period hedging.

In terms of expanded methods of hedging, Northern is exploring the appropriateness of hedging Summer Period prices and if so, whether financial hedging would be effective. Due to increasing NYMEX prices experienced over the course of last summer, Northern filed for increases to its summer Cost of Gas rates three times, two of which were for increases in excess of the 25 percent threshold that requires approval by the Commission. During the summer period, Northern does not withdraw underground storage and Northern enters into its asset management arrangements shortly before the beginning of the summer period which limits the opportunity for time-based NYMEX price locks. As such, the physical gas purchasing approach used for the Winter Period appears not to be a good fit for the Summer Period. Given this, Northern has begun to research various financial hedging approaches that might be effective for the Summer

¹ Under Northern's Price Risk Mitigation Plan, the winter period hedged includes November through March.

² See September 16, 2022 Testimony of Francis X. Wells in Docket No. DG 22-059 at Bates 78.

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Period. Potential approaches might include purchasing NYMEX futures contracts or options on futures contracts, and possibly combining the purchase and sale of options on NYMEX futures contracts.

Person Responsible: Francis X. Wells

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III. GAS

Request 1-11:

Please provide an overview on the types of Asset Management tools that exist or are entering the market, and how those can help optimize procurement decisions for both utilities and their suppliers.

Response:

Northern's typical Asset Management Agreement structure contains the following attributes.

- <u>Asset Management Fees:</u> Northern receives a fixed asset management fee, which provides a known offset to the demand costs paid for the pipeline and storage capacity contracts. The Asset Manager bears the risks attributable to changes in market value and capacity volumes released under the agreement due to capacity assignment changes.
- <u>Delivery Period</u>: Northern currently structures its Asset Management Agreements to run in one-year Delivery Periods from April 1 through March 31.
- 3. <u>Commodity Prices:</u> Northern pays a commodity cost that is equal to that which the company would have paid if Northern directly managed the pipeline and storage capacity contracts. For example, our Asset Management Agreement for capacity that accesses the Dawn Hub is priced at the Dawn Hub index price plus variable transport for delivery to Northern's system.
- 4. <u>Commodity Volumes:</u> The daily, monthly and annual volumes of commodity for each resource that Northern may call upon are consistent with the volumes that Northern would nominate if it directly managed the assets. For example, if a capacity resource is not typically needed in the Summer Period due to low demands, the Asset Management Agreement will usually stipulate that Northern will not call for commodity deliveries during that time, allowing potential bidders to enhance the value they can offer. Northern ensures that such restrictions within the Asset Management Agreement do not impede Northern's ability to reliably serve customers.
- 5. <u>Operational Scheduling Requirements:</u> Northern requires that Asset Managers be the party that physically schedules commodity volumes that we nominate

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utilizing the capacity we released to them. We do not allow Asset Managers to optimize the dispatch of managed assets by utilizing them for other markets when we are calling upon gas. Such activity often results in more frequent scheduling cuts and a loss of visibility by the Asset Manager, as deliveries under our contract may be passed to third parties. The scarcity of pipeline capacity into New England can make replacement of cut gas difficult, which is not acceptable when Northern is releasing firm capacity to the Asset Manager.

Northern has found our current structure for Asset Management Agreements to be very successful. Each year, prior to issuance of our annual RFP, we discuss how the market, demand profiles or operational situations have changed and make updates as needed.

Person Responsible: Francis X. Wells