New Hampshire Utilities
Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-001-1 **Page 1 of 2**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 1 - Plan Executive Summary
Please explain whether the following technologies are eligible for upfront and/or operational incentives within the 2024-2026 Plan, distinguishing between income eligible, residential and C&I customers. If not, please explain whether the technology was evaluated or considered and what factors led to exclusion. Please address both purchase rebate incentives and active demand reduction incentives (such as the Connected Solutions program).
1. Solar photovoltaics.
2. Solar thermal.
3. Battery storage.
4. Electric vehicle supply equipment (EVSE)/chargers.
5. Electric vehicles.
6. Hybrid heating systems (combination natural gas and electric).
7. Geothermal.
8. Service and behind the meter electrical.

Response:

The NH Utilities offer incentives to customers and, in some cases, distributors and contractors, to encourage the adoption of a suite of energy efficiency measures. Of the first seven technology types listed in the question, only hybrid heating systems and geothermal technologies would be eligible for an incentive under the proposed NH Utilities 2024-2026 Three Year Energy Efficiency Plan. "Hybrid heating systems" are presumed to mean high efficiency electric heat pump equipment backed up by natural gas heating systems. If that is an accurate understanding, such systems are eligible for incentives primarily through the Residential and C&I New Construction and Residential Retail pathways. Residential new construction homes (including those serving income eligible customers) with ground source heat pumps (colloquially known as 'geothermal' heat pumps) supplying heat and hot water are eligible to participate in the Energy Star Homes program.

"Service and behind the meter electrical" is not defined in the question, however all incentives provided to customers are for behavior and equipment occurring on the customer side of the meter, also known as 'behind the meter'. None of the other technologies listed were considered

for inclusion in the 2024-2026 Plan because they do not reduce electric capacity or energy consumption at the customer site and are therefore not considered to be energy efficiency measures.

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Request from: New Hampshire Public Utilities Commission

Request:
Subset 1 - Plan Executive Summary
Reference Bates page 9 of the Plan: Please estimate the breakup of the "customer energy cost savings of more than $675 million over the lifetime of the measures" into "participating" and "non-participating" customers. As needed, provide narrative support (including assumptions) for the breakup analyses requested.

Response:

The $675 million referenced reflects participating customers' estimated avoided energy expenses (i.e., an estimate of the retail value of the energy saved) over the lives of the measures installed. This estimated dollar amount does not incorporate any value accruing to non-participants. This estimate utilizes a rolling average of the NH DOE's fuel prices (https://www.energy.nh.gov/energy-information/nh-fuel-prices) and the Plan's savings to derive the estimated cost savings.

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Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
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Request from: New Hampshire Public Utilities Commission

Request:
Subset 1 - Plan Executive Summary
Reference Bates page 14 of the Plan. The joint utilities state that "[a]ll changes to the Plan are largely budgetary or administrative, with program structure and offerings remaining largely unchanged."

1) Please highlight the budgetary and/or administrative changes.
2) On what basis have joint utilities decided to maintain programs and offerings as largely unchanged?
3) Please provide a list of the programs that have not been allocated funding in the Plan that received funding between 2021 and 2023.

Response:

1) **Budgetary Changes**
   Given recent legislative changes regarding the fixing of energy efficiency funding portions of the SBC and LDAC rates, budgets are relatively fixed whereas under the Energy Efficiency Resource Standard ("EERS") framework, budgets and savings were proposed based on the energy efficiency targets agreed upon through the stakeholder and settlement process. While budgets in the proposed 2024-2026 plan are derived from the energy efficiency funding rates in the SBC and LDAC, RGGI auction proceeds, and FCM revenues, they differ year-over-year and among the utilities based on each utility's projected sales volumes and the legislatively mandated escalation in energy efficiency rates. Further, each utility's and program's relative share of the sector budget has been adjusted from prior periods in order to reflect recent experience in the marketplace, and expected changes in emphasis in the coming term. Examples include, but are not limited to, updates to building energy codes, federal appliance standards, and the sunsetting of rebates for certain measures (e.g., residential lighting).

   Administrative Changes

   Refining Expenditure Types: Administrative changes include a refining of the definition of expenditure types, which more clearly isolates expenditures on customer incentives, and the

more definitive treatment of income-eligible as its own sector in order to better track relevant budgets and expenses.

Implemented Three-year Term: The Utilities also included an administrative change relating to the implementation of a single three-year term, including those related to budgeting, reconciliation, periodic reporting, requests for interim modifications, and performance incentives.

Cost Benefit Model, TRM Updates: Finally, the cost-benefit models underpinning the savings and benefits calculations were updated to reflect the most recent Technical Reference Manual ("TRM"), which was reviewed and approved by the EM&V Working Group (see Attachment S of the Plan filing).

2) For the past year, the Utilities participated in a stakeholder process with other likely parties to the docket in order to identify changes to program design or delivery that should be included in the 2024-2026 Plan. While modest changes have been proposed, including the addition of a natural gas Municipal Program, the conversion of the Active Demand Response pilot to a full program, a greater emphasis on capturing electric savings related to HVAC, and a focus on workforce development, the Utilities propose to continue the existing successful, and award-winning program designs, and overall portfolio structure. This structure was in place when HB 549 was passed, and therefore complies with the most recent changes to New Hampshire statute as well as continuing to be consistent with existing applicable state law, furthers the state's energy strategy, and achieves optimal energy savings, system benefits, and positive participant outcomes.

3) There were no programs offered in 2021 through 2023 where funding was eliminated in the proposed 2024-2026 Plan.

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Request from: New Hampshire Public Utilities Commission

Request:
Subset 2 - Plan Chapter 1 re: 2024 - 2026 Plan Overview
Reference Bates pages 17-18 of the Plan, tables 1-1 and 1-2.
1) Provide comparable "baseline data."
2) Clarify whether "cumulative program funding" includes performance incentive payments.

Response:

1) Due to the constant evolution of the Energy Efficiency programs since 2018, there is no baseline data to directly compare the programs over time. It is important to note that the proposed programs in the 2024-2026 Plan were developed in compliance with HB 549 and SB 113, which effectively set a new baseline: setting the scale of energy efficiency programs by establishing funding at 2020 levels and tying any energy efficiency funding increases in the SBC and LDAC rates to the rate of inflation. This is in stark contrast to the 2018-2020 and 2021-2023 planning processes where stakeholders first established energy efficiency goals and then budgets and rates subsequently designed to achieve those goals, which is what was ultimately proposed to the Commission for approval. Now, there are no SBC and LDAC funding "changes" to compare to previous plan levels, because HB 549 wiped the slate clean by setting funding levels. Further, energy efficiency programs in New Hampshire, and elsewhere throughout the country, evolve to overcome new and emerging barriers to the adoption of energy efficiency, target different types of equipment, and reach different participants, and therefore the same funding can provide a different "baseline", as savings potential can vary. In the process, the efficiency baselines against which savings are measured are updated, evaluation assumptions are updated, and the cost to achieve savings typically increases. Please refer to Attachment PUC 1-002-1 for the requested information.

   Footnotes in the attachment detail how energy savings, the basis of which changes over time, were depicted in any given year. These changes include how savings were reported (i.e., based on adjusted gross values for 2018-2020 and net values for 2021-2026), and which baseline year was referenced when estimating energy savings achieved as a "percent of sales" (2014 baseline year for 2018-2020, 2019 baseline year for 2021-2023, and 2022 baseline year for 2024-2026). Given the evolving nature of programs, economic conditions, evaluation, and

changing kWh and therms sales, readers should use caution in comparing goals, benefit-cost ratios, number of participants, or the cost-to-achieve savings from one year, or one period, to the next, as each program year or period should be viewed in its total, discrete context. This will provide the most informative and accurate assessment of the value of savings compared with available funding.

A final caution regarding comparisons from year to year concerns the evolving role of energy efficiency lighting measures in the NHSaves portfolio. Until recently, high efficiency residential lighting was a major source of relatively inexpensive energy savings, but as of 2023 has been removed from the residential portfolio due to the transformation of that market. While savings from energy efficient lighting remains an important element of the C&I portfolio, lifetime kWh savings for many types of lamps and fixtures in that sector have been reduced by more than 50% since 2022 due to the transformation of that market as well.

2) 'Cumulative program funding' in Tables 1-1 and 1-2 does not include performance incentive funds.

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Request from: New Hampshire Public Utilities Commission

Request:
Subset 2 - Plan Chapter 1 re: 2024 - 2026 Plan Overview
Reference Bates Pages 23 and 25 of the Plan, tables 1-7 and 1-8.

1) Provide comparable "baseline data."
2) Confirm that forecasted System Benefits Charge and Local Distribution Adjustment Charge revenues are calculated based on the 3-year average consumer price index (CPI-W), and detail how forecasted CPI-W index data, if any, was derived.

Response:

1) Please refer to Attachment PUC 1-002-2a as well as the response to PUC 1-002-1.

2) Please refer to Attachment PUC 1-002-2b for the projected three-year average consumer price index (CPI-W) that was used for the 2024-2026 Plan. The forecast CPI-W was based on 2% annual increases over May 2023 – the Federal Reserve target for annual inflation.

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Request:
Subset 2 - Plan Chapter 1 re: 2024 - 2026 Plan Overview
Reference Bates page 29 of the Plan. The joint utilities state that "the NH Utilities retain flexibility within the sector to shift funds between programs to respond to demand for program support and other changes in the marketplace."

1) What trackers do the joint utilities maintain to determine the need to shift funds?
2) Are programs with higher benefit-to-cost (B/C) ratios from the primary and secondary B/C tests prioritized? Please explain.
3) Explain how the joint utilities intend to shift funds between customer classes or customer types, if applicable.

Response:

1) Each utility actively manages and tracks its own programs and budgets against approved plans and uses its discretion regarding appropriate deployment of funds, including from one program to another. This discretion is informed by a variety of internal monitoring strategies including vendor reports, implementer analysis, budget to actual variance reports, and for some programs, the volume of applications or projects in queue. Each utility maintains a tracking system or database that records activity related to program participation and rebates associated with energy efficiency measures, which in turn is summarized in quarterly and annual reporting.

2) The cost-effectiveness tests are not typically utilized to determine which programs will receive a transfer of funds from another program. The shifting of funds from one program to another within a sector is undertaken in order to minimize disruption to program continuity and to meet the customer demand for rebates and services within a given program exceeding what was planned.

3) As stated on Bates page 29, funds are not shifted between customer sectors (income-eligible, residential or C&I) without explicit Commission approval.

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Request:
Subset 2 - Plan Chapter 1 re: 2024 - 2026 Plan Overview
Reference Bates page 21 of the Plan. The joint utilities state that "...the 2024-2026 NHSaves Programs will support 1,718 FTEs or 3.6 million work hours."

1) Have the joint utilities conducted any analysis of the income elasticity of energy consumption and estimated the impact on energy consumption associated with the direct jobs and indirect jobs as estimated?
2) If so, please provide supporting documentation, and indicate how the analysis informs the Plan's electric kWh and natural gas MMBtu savings estimations.
3) If not, please explain why such an analysis was not performed.

Response:

1) No, the joint utilities have not conducted any analysis of the income elasticity of energy consumption or estimated the impact on energy consumption associated with the direct jobs and indirect jobs as estimated. Such an analysis goes beyond the reasonable capabilities to assess job benefits created by the NHSaves programs.

2) N/A
3) As noted in the footnote on Bates page 21 the number of jobs supported by the dollars spent was based on a report of the economic impacts of the NHSaves programs undertaken by a third-party evaluation firm and completed in early 2023 in conjunction with other analyses to satisfy the Commission's reporting requirements in Order No. 26,621 in Docket No. DE 20-092 (see Attachment M to the Plan). Analysis of the impact of income elasticity on energy consumption was not undertaken "due to schedule and scope constraints" as noted by the authors of that study and specifically described in the last bullet point of this excerpt from the Executive Summary (Bates 497-498):

> It is important to note that these quantified impacts are best estimates, which reflect underlying assumptions and limitations in modeling tools and data. The team documented these assumptions and limitations and presented ranges of conservative and aggressive estimates throughout the report for in-state impacts

and other factors. Despite some amount of imprecision, which is inherent in economic modeling, the scale and scope of quantified impacts provides clear evidence of the economic benefits of the programs. In addition, as described in the National Standard Practice Manual, jurisdictions "should account for all relevant, substantive impacts (as identified based on policy goals), even those that are difficult to quantify and monetize. Using best-available information, proxies, alternative thresholds, or qualitative considerations to approximate hard-to-monetize impacts is preferable to assuming those costs and benefits do not exist or have no value.

In addition to quantitative modeling, the team's interviews with officials from multiple organizations with expertise and knowledge of the NHSaves programs validate the importance of the programs in supporting and growing the local workforce and in providing New Hampshire businesses and residents with funding to support energy efficiency investments. The value of the programs can be seen in part by the disruptions to local workforce and customers that occurred when the programs' continuity became uncertain. The programs also provide a tool for workforce recruitment and retention that can help New Hampshire compete with surrounding states that offer similar state-wide energy efficiency programs.

There are several areas of analysis covered in this study that were limited due to schedule and scope constraints, summarized in the list below, which could be explored in greater depth. This could include primary New Hampshire data collected from customers and other market actors via surveys, interviews, or other methods to validate and expand on the team's modeling results, while considering tradeoffs between costs, rigor, and value of additional research.

- Analysis of inter-state workforce effects of the NHSaves programs, to help quantify the qualitative insights from expert interviews on workforce competition and use of in- and out-of-state contractor workforce
- Updating health impacts analysis for future program years to reflect updated ISO-NE data on electricity generation mix and updated demographic data underlying epidemiological models
- Further analysis of long-term customer bill savings and discount rate sensitivity analyses, to provide additional insight in response to the Commission

- Analysis of secondary energy consumption related to economic activity spurred on by the NHSaves programs—also known as the "rebound effect"—to provide additional insight in response to the Commission.

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Request from: New Hampshire Public Utilities Commission

Request:
Subset 2 - Plan Chapter 1 re: 2024 - 2026 Plan Overview
Reference Bates page 22 of the Plan. The joint utilities identify first-cost obstacles as one of the barriers addressed by the Plan.
1) Have the joint utilities analyzed and estimated what customer incentives directed towards "reducing first-cost obstacles" are sufficient to implement the programs proposed in the Plan?
2) If so, please provide such analysis.
3) Please provide any relevant research papers known to the joint utilities addressing "first-cost obstacles" and the sufficiency of incentives in removing such obstacles.

Response:

Program design and incentive levels are intended to help sufficiently address customers' barriers, including first-cost barriers. Incentive levels are established based on a combination of factors, including: experience from previous years; customer feedback; incremental cost between baseline and efficient measures; high efficiency penetration and saturation data related to the measure (if available) from ENERGY STAR®, cost-effectiveness of the measures offered; and review of incentive amounts for similar programs or measures in other states. The majority of measures in the 2024-2026 Plan have been offered previously, but the level of efficiency eligible for a rebate may change based on increasingly efficient federal standards. Minimum efficiencies and baselines are described in the TRM for all measures. For new measures, the Utilities consider the incremental cost between a standard efficiency measure and a high efficiency measure, and rebate levels offered in other jurisdictions.

Please refer to Attachment N and Attachment O in the Plan filing made on June 30, 2023. Attachment N consists of the commissioned report "Market Barriers to Energy Efficiency", which was completed in conjunction with other analyses to satisfy the Commission's reporting requirements in Order No. 26,621 in Docket No. DE 20-092.

Attachment O describes the approach of the NHSaves programs pertaining to market barriers. Also included within Attachment O are the study: "REGULATORY SPOTLIGHT: Estimating Energy Savings From Resource Acquisition and Market Transformation Programs" as well as

references to several other studies and efforts focused on properly evaluating and measuring energy efficiency programs designed around resource acquisition strategies and how they can help overcome barriers, including first-cost barriers.

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Request from: New Hampshire Public Utilities Commission

Request:
Subset 2 - Plan Chapter 1 re: 2024 - 2026 Plan Overview
Reference Bates pages 22-23 of the Plan. The joint utilities state that "The NHSaves programs work with vendors and retailers on the supply side as well as with customers on the demand side to ensure these and other barriers are comprehensively addressed and overcome."

1) Please list, with any supporting evidence, successful activities in the past three years that have been able to comprehensively address and overcome market barriers that existed.
2) Do the joint utilities view the lack of transactive energy markets at a retail level as a market barrier?
a. Were transactive energy applications and opportunities analyzed for inclusion within the Plan?
b. Will any of the programs described in the plan enable further participation in transactive energy for any of the individual joint utilities?

Response:

1) Please refer to Attachment O (Bates pages 637-654), which describes how the NHSaves programs approach and address market barriers. In brief, the NHSaves portfolio consists of resource acquisition programs that target customers and retailers and intervene to change behaviors and purchase decisions in order to incrementally save energy. The referenced quotation was specifically talking about barriers faced by customers and vendors, and described how the programs employ a diverse array of strategies geared at multiple different actors to help customers overcome those barriers. But comprehensively overcoming market barriers in the context of the design of the NHSaves programs does not mean eliminating those market barriers, but rather successfully getting customers to overcome those market barriers through the intervention of the program measures to directly benefit from program participation.

   For example, the Home Performance program addresses customers' barriers through education of the measures that will be installed, upfront incentives offered consistent with the project being undertaken, and the availability of financing options to assist with the customer's portion of the cost, if needed.

Another example includes the C&I programs, where companies have internal financial constraints and competing investment opportunities, where the NHSaves programs are able to educate customers on their options to improve the efficiency of their systems or buildings and help them choose a solution that works for them in terms of energy savings, fits within their business plan, and makes sense for them economically. Through working with Lindt & Sprüngli (USA), Eversource has helped this New Hampshire business reduce its annual energy consumption by over 4% (https://www.eversource.com/content/residential/about/our-company/news-room/new-hampshire-news/detail/lindt---spr%C3%BCngli-(usa)-and-eversource-celebrate-energy-efficiency-partnership).

2) The Utilities refer, for purposes of responding to this inquiry, to the definition of 'transactive energy markets' promulgated by Gridwise Architecture Council, formed by the federal Department of Energy in 2004, as "techniques for managing the generation, consumption, or flow of electric power within an electric power system through the use of economic or market-based constructs while considering grid reliability constraints" primarily through the use of multi-channel communication and smart metering. It should be noted, as indicated in this inquiry, that no transactive market yet exists in New Hampshire, and so the ability to analyze the impacts of such a market without knowing what that market would look like or how it would function is limited.

While the lack of such markets is not in and of itself a barrier to the adoption of energy efficiency, transactive energy markets do have the potential to provide opportunity, where smart metering and smart devices are available and there is customer desire and engagement, to more efficiently manage the electric grid on behalf of all customers.

Although the infrastructure necessary to stimulate market activity is largely lacking in New Hampshire and throughout the ISO-NE territory, wireless two-way communication is integral to the Utilities' Active Demand offerings. Further, smart technologies are of interest to the Utilities as an area of significant potential energy savings. Evaluation studies included in the Strategic Evaluation Plan, which have already launched, will investigate electric system opportunities 'Beyond Lighting', including those that leverage the growing marketplace of smart tech.

In addition to the residential and commercial Active Demand offerings' reliance on economic signaling to induce curtailment during system peaks, the new construction programs promote

practices that encourage the design of buildings that are solar and EV ready, take advantage of heat pump technologies where cost-effective, and incorporate controlled lighting and other energy management systems.

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Request:
Subset 2 - Plan Chapter 1 re: 2024 - 2026 Plan Overview
Please explain how federal funds are leveraged to support the Plan, including dollars used from the federal government and which programs they are applied to.

Response:

The Utilities continue to be open and willing partners for seeking and deploying federal funding related to energy efficiency. However, it is uncertain what funds will be awarded to New Hampshire through its designated State Energy Office (i.e., NH DOE) and how any funds' programs or offerings will be designed and deployed by the eligible entity to receive such funds. As a result, the Utilities are unable to predict the amount and extent to which the NHSaves programs will be able to leverage federal funds.

That said, the Utilities have been in regular communication with NH DOE regarding the future availability of federal funds and have made known the ability to partner with NH DOE to deploy those funds to the benefit of New Hampshire residents and businesses by leveraging the existing networks, processes, and structures of the NHSaves programs. Regarding tax credits or other tax related benefits available to customers, the Utilities and their energy efficiency vendors do not provide tax advice to customers but encourage them to consult with a tax advisor to determine eligibility and applicability.

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Request from: New Hampshire Public Utilities Commission

Request:
Subset 3 - Plan Chapter 2 re: A Multi-Year Plan
Reference Bates pages 35-36 of the Plan regarding TRM and AESC updates. Describe the scope of potential Plan updates and the decision-making framework used by interested parties to update the TRM.

Response:

The TRM is updated on an annual basis to reflect recommendations from new evaluation studies, new appliance standards, New Hampshire building energy codes, and other relevant changes to measure assumptions. The TRM may also be updated on a quarterly basis to reflect the addition of new measures to the program offerings.

Keeping the TRM up to date is the responsibility of the Evaluation, Monitoring and Verification ("EM&V") working group, with administrative tasks performed by utility staff. While there have been no instances to date in which consensus was not reached over the updating of a measure, should agreement not be reached, any member of the working group may seek a Commission determination on the issues.

The AESC is overseen by a Working Group consisting of utility and policy representatives from several New England States including New Hampshire. Every three years, a Request for Proposals is issued and a vendor selected to model the avoided energy supply components. The Working Group actively participates in oversight of the study and deliverables. The next AESC study is expected to be issued in early 2024, which will result in updated modeled avoided costs (i.e., benefits) related to avoided electricity, capacity, natural gas, oil, propane, wood and other energy and environmental components of energy efficiency specific to New Hampshire. While it is not possible for the NH Utilities to predict the scope of potential plan updates at this time, as a point of reference, the 2021 AESC study showed a 20% reduction in the value of electricity compared to the 2018 AESC study (based on 2021$ per MWh, 15-year levelized cost).

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Request:
Subset 4 - Plan Chapter 3 re: NHSaves C&I Energy Efficiency Programs
Reference Bates page 37 of the Plan. The joint utilities state that "commercial, industrial and municipal customers reduce operating costs ... and increase productivity...."
1) Are operating cost savings estimated or separately quantified? If so, please provide such estimates or quantification.
2) Is increased productivity estimated or separately quantified? If so, please provide such estimates or quantification.

Response:

1) Customer operating costs are not considered within the AESC or NHSaves program framework and therefore have not been separately quantified. However, any reduction in customer energy usage necessarily results in reduced operating costs for the customer, holding all else equal. Energy efficiency measures in industries where energy costs represent a larger share of operating costs, such as heavy manufacturing, allows energy costs to create a natural incentive to pursue efficiency.

2) Productivity is not considered within the AESC or NHSaves program framework and therefore has not been separately quantified in New Hampshire.

The Utilities' resource acquisition energy efficiency programs in Massachusetts, which are structured similarly to the NHSaves programs and incorporate non-energy impacts (NEIs), including increased operating costs and productivity, conducted an "O&M and Non-O&M NEI Study" in 2021 (https://ma-eeac.org/wp-content/uploads/MA20X10-B-CIOMNEI_OM-NON-OM-NEIs-Report.pdf) to develop NEI values that could be applied broadly across all C&I measures and programs. The study determined that the energy efficiency programs deliver reduced operating costs and increased productivity, along with several other types of NEIs, and included them in the Massachusetts NEI estimates.

For more information on the value of reduced operating costs and increased productivity, please refer to the DNV Non-Energy Impact Analysis from 2020, which is Study 148 on the PUC

website's list of "Evaluations Completed Since 2000" (https://www.puc.nh.gov/Electric/Monitoring_Evaluation_Report_List.htm).
DNV also addressed non-energy impacts in its more recent studies related to Market Barriers and Economic Impact, included as Attachments M and N to the Plan.

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Request:
Subset 4 - Plan Chapter 3 re: NHSaves C&I Energy Efficiency Programs
Reference section 3.2 of the Plan re: the Small Business Energy Solutions Program.

1) Do the joint utilities track repeat participants?
    a. If so, describe the policies in place regarding total incentives (annual, over multiple years, etc.).

2) Does the program target property owners or tenants?

3) Section 3.2.1 refers to "market segments." Do the joint utilities track any data based on market segments?
    a. If yes, please provide tracked data by market segment category, such as incentive types, average program costs, average incentives, etc.
    b. If no, please explain.

4) What is the maximum incentive percentage to program offers?
    a. If the maximum incentive is 100%, how much of the program is offered at a 100% incentive level? Please provide historical figures from 2021-2023.

5) Section 3.2.2 refers to "Prescriptive Incentives" and "Custom Incentives."
    a. Please provide a list of prescriptive incentive measures.
    b. Please provide any written guidelines used by vendors or utility staff to evaluate cost-effectiveness of custom incentives.

6) Section 3.2.3 refers to "midstream distributors." Provide examples of incentives offered to midstream distributors.

Response:

1) While the Utilities track all customer incentives earned and have quality control practices in place, the Utilities do not typically keep track of repeat participants year-over-year nor is there a blanket policy limiting the number of times or amount of funding that a single customer can access over multiple years.

2) The program aims to reach both property owners and tenants.

3) The Utilities reference to market segments was in relation to the programs offered, including Municipal, Large C&I, and Small and Mid-sized C&I. Bates page 41 states "The small and mid-size business market segment has a diverse set of customer types, including but not limited to: convenience stores, dry cleaners, office buildings, private schools, repair and professional services, restaurants, general and specialty retail stores, and commercially or master-metered multi-tenant facilities." The Utilities have partnerships with EE installation contractors that, based on their EE offerings, may target specific business types. For example, a refrigeration controls vendor targets convenience stores that have large refrigeration cases without controls.

4) It should be noted that there is no maximum portion of the program that is offered at a specified incentive level. The Small Business Energy Solutions program offers 100% incentives for the incremental cost of the following natural gas energy efficiency measures, not for the total cost of the measure itself. Collectively, these incentives make up an insignificant fraction of total program savings:
   - Faucet Aerators – incremental installed cost and rebate = $7.00 - $15.00
   - Low Flow Showerheads – incremental installed cost and rebate = $40.00
   - Programmable Thermostats – incremental installed cost and rebate = $85.00

   These measures are considered 'instant savings measures' which may be installed on customers' premises by a vendor during an on-site assessment or audit. These measures are offered at no cost to the customer, and the energy and associated benefits associated with the measures help balance the program cost related to the site visit while also providing a benefit to the customer that makes them more inclined to learn about and participate in an energy assessment and adopt other energy efficiency measures. The total cost associated with the incentive on the incremental cost of these measures is insignificant when compared to the total cost of the program. It is difficult to isolate the total benefits derived from these incentives as many customers receiving these measures opt to install additional measures or pursue other projects due to this particular incentive. Please refer to Attachment PUC 1-004-2 for the requested incentive information on these Small C&I Program measures for 2021-2023.

   For the Electric Small Business Energy Solutions program, there are no measures designed with 100% incentives for incremental or total measure cost.

5) a. Typically, mass market products are associated with fixed prescriptive incentives, either for each widget, per ton, or per energy unit saved. All measures except for custom projects receive a prescriptive rebate that can be calculated by a customer or a vendor based on the rebate forms associated with the measure. Please refer to the filed BC model for each utility. The Inputs tabs – rows 849-880 for electric programs and rows 273-280 for the natural gas programs – display the measures with prescriptive incentives in column D. These are largely food service measures offered through the midstream channel.

   b. The BC models, which are based on the NH TRM and GST, are filed with the Commission as part of each Plan and the BC models and screening tools based on the BC models are used by utility staff and vendors to evaluate the cost-effectiveness of a custom project. Savings calculations of custom projects are developed by vendors and engineers based on project and site-specific conditions, and the TRM (see Attachment S of the June 30 2024-2026 Plan filing, Bates 1342 – 1350).

6) Midstream distributors receive the Dealer Stipends listed in the Foodservice example below.

Foodservice Measures	Incentives and Stipend are per	Customer Incentive	Dealer Stipend
Deck Oven	Cavity	$2,000	$250
Hand wrappers	Unit	$100	$10
Infrared Conveyor Broiler <22" Wide	Unit	$2,000	$100
Infrared Conveyor Broiler 22-28" Wide	Unit	$2,500	$100
Infrared Conveyor Broiler >28" Wide	Unit	$3,000	$100
Refrigerated Chef Base 35-120"	Unit	$500	$50

New Hampshire Utilities
Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-004-3 **Page 1 of 2**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 4 - Plan Chapter 3 re: NHSaves C&I Energy Efficiency Programs
Reference section 3.3 of the Plan re: the Municipal Program.

1) Section 3.3.2 re: "Custom Incentives" refers to "technical studies." How do the "technical studies" inform the referenced "Custom Incentives"?
2) Section 3.3.2 re: "Targeted Incentives" refers to "incremental cost.," How are "incremental costs" defined and determined?
3) Section 3.3.2 refers to "performance contracting." Are there any "performance contracting" offerings in the Plan other than SmartSTART offerings?

Response:

1) Custom incentives are designed for non-standard energy efficiency measures, typically involving more comprehensive projects that are more complex than the standardized mass market products that entail prescriptive offerings. Custom incentives are determined by engineering calculations to estimate energy savings and evaluate whether a project is cost-effective and, as a result, eligible for financial incentives. Often, the savings generated by these measures are site and end use-specific, and thus a detailed analysis is required to qualify them for incentives. Project viability, eligibility and incentives are assessed on a case-by-case basis, and are determined by a technical study, which details energy and demand savings, and identifies and details potential solutions and costs.

2) Incremental cost is defined as the additional cost to purchase high efficiency equipment as compared to the cost to purchase the standard efficiency equipment. Incremental cost is determined by reviewing the market price of standard efficient and high efficiency equipment and calculating the difference in cost. For example, if a standard efficiency widget generally costs $100 across the marketplace and a high efficiency widget generally costs $150 across the marketplace, the incremental cost would be $50.

3) The performance contracting referenced in Section 3.3.2. refers to agreements between a vendor and some municipal or school district customers, and not between the Utilities and customers – the Utilities are not a party to these contracts. Performance contracting provides customers with the ability to have comprehensive energy efficiency projects completed without requiring a copayment. Customers pay for the projects with dollar savings achieved over a period of time that is shorter than the life of the measures. The value proposition for the customers is that the energy savings are free for the remainder of the measure lives.

   Where cost-effective, the Utilities provide incentives for energy saving projects that are identified by a performance contract vendor. SmartSTART is a financing mechanism for certain customers and is not a performance contract.

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Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-004-4 **Page 1 of 2**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 4 - Plan Chapter 3 re: NHSaves C&I Energy Efficiency Programs
Reference section 3.4 of the Plan re: the Large Business Energy Solutions Program.

1) Section 3.4.2 refers to a list of prequalified measures under the "Prescriptive Incentives" subsection.
    a. Please provide this list.
    b. Describe how this list is developed and updated.
    c. How is the incremental installed cost calculated?
    d. Is there any cap on project size or incentive level?

2) Regarding "Performance Based Incentives" please explain the methods used to determine incentive levels.

Response:

1) a. Please refer to the filed BC model for each utility. The Inputs tabs – rows 565-596 for electric programs and rows 182-189 for the natural gas programs – display the measures with prescriptive incentives in column D. These are largely food service measures offered through the midstream channel.

    b. The Utilities and the Utilities' vendor partners are in regular communication with equipment manufacturers, energy efficiency consultants, state and federal energy offices, and other energy utilities to identify new energy efficiency measures that can be supported by prescriptive incentives. Once identified, engineers will model the average energy use of the high efficiency measure and compare that to the average energy use of the standard efficiency measure. The proposed measure and associated savings assumptions, Total Resource Cost and incentive are then submitted to the EM&V Working Group for its review including for cost-effectiveness. If it is approved for inclusion in the program(s), the measure is assigned a unique Measure ID, added to the BC models, reported as an addition to program offerings in the next quarterly report to the Commission and included in marketing materials such as rebate forms and the NHSaves website.

    c. Please refer to the response provided to PUC 1-004-3 Part 2.

d. There is no cap on project size. Incentive level caps, for those of the Utilities that utilize them, are based on the approved EE budget and EE savings goals.

2) Please refer to Bates page 49 for a description of performance-based incentives. Specifically, "These incentives are based on energy calculations, including watts saved per square foot, dollars per kWh saved, and energy savings achieved above code." In other words, the size of the incentive scales to the size of the savings achieved, which may be based on energy savings overall, energy savings per square foot, energy savings above code, or some other measure of savings. Performance-based incentives may be offered to customers to encourage retro-commissioning of existing systems where energy savings can be achieved as a result of optimizing existing systems through controls and other operational interventions. These incentives are based on energy calculations before and after the EE project. Performance-based incentives encourage customers to move beyond installing just one piece of energy-efficient equipment to consider holistic building design and management, as well as interventions and measures that optimize the energy performance of systems or buildings.

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Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-005-1 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 5 - Plan Chapter 4 re: NHSaves Residential and Income Eligible Energy Efficiency Programs
Reference Bates pages 65 and 70, tables 4-3 and 4-4. Provide comparable "baseline data."

Response:

Please refer to the response to PUC 1-002-1 and Attachment PUC 1-005-1 for the requested information.

New Hampshire Utilities
Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-005-2 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 5 - Plan Chapter 4 re: NHSaves Residential and Income Eligible Energy Efficiency Programs
Reference Bates page 63. The joint utilities state "[t]he transformation of the residential lighting market has changed both the measure mix and scale of this program...."
1) Are any lighting measures still available in the residential suite of programs?
2) If so, describe these measures.

Response:

Yes, limited high efficiency lighting measures for income-eligible customers are still offered through the NHSaves programs. Standard A-line screw-in bulbs have been discontinued as these are now considered baseline (i.e., there are no energy savings that can be attributed to the programs as a result of interventions related to these bulbs). However, lighting controls and certain strip lighting are still cost-effective and offered by the programs where appropriate.

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Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-005-3 **Page 1 of 2**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 5 - Plan Chapter 4 re: NHSaves Residential and Income Eligible Energy Efficiency Programs
Reference section 4.2 of the Plan re: the ENERGY STAR Homes Program.
1) What is the average and maximum discount per measure dollar value?

2) What is the average and maximum discount per measure as a percentage of total measure cost?

3) Reference Bates page 59 of the Plan, the joint utilities state that "...the program has captured between 15 and 35 percent of New Hampshire's new construction market..."
a. Please explain how this range was derived.
b. Is there a percentage penetration estimate of target for the Plan?

4) Is the program fuel neutral when considering measures?

5) Do geothermal measures qualify within the program?

Response:

1 & 2) The Utilities assume that "discount" in this inquiry is referring to the incentive offered by the program. Please refer to the filed BC model for each utility. The Inputs tabs – rows 148-182 for electric programs and rows 47-58 for the natural gas programs – display the average prescriptive or custom calculated incentive for each measure in column J. The average total resource cost for each measure is in column I. The ES Homes Program is designed to impact the new construction market and encourage high efficiency residential construction with a particular emphasis on building shell and HVAC systems. Unlike other offers, the ES Homes Program does not focus on individual energy saving measures. Savings are calculated by Home Energy Raters (HERs), who use software to compare the energy use of the as-built home to that of a standard, user defined reference home ("UDRH"). The resulting savings is then assigned to heating and water heating end uses, depending on the as-built home. The average and maximum incentive varies by utility and by year.

3) The calculation is based on the number of new homes participating in the program divided by the total number of new home permits pulled within the state. In 2021, the latest year with permitting information available, the ES Homes Program enrolled 1,280 of the total 4,892 building permits pulled, or 26%. The Utilities anticipate continued strong interest in the ES Homes Program and have estimates for the number of participants within the program for 2024-2026 at 4,061 electric participants and 877 gas participants, as mentioned on Bates page 114, but do not have a firm estimate for market penetration.

4) Yes, the ES Homes Program is fuel neutral, meaning it will support high efficiency construction regardless of the source of heat or hot water.

5) Yes, homes with ground source heat pumps (colloquially known as 'geothermal' heat pumps) supplying heat and hot water are eligible to participate in the ES Homes program.

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Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-005-4 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 5 - Plan Chapter 4 re: NHSaves Residential and Income Eligible Energy Efficiency Programs
Reference section 4.3 of the Plan re: the ENERGY STAR Products Program.

1) What is the average and maximum discount per measure dollar value?

2) What is the average and maximum discount per measure as a percentage of total measure cost?

3) How are product discounts determined?

4) Is there a correlation between product discounts and energy savings offered by the product?

Response:

1 & 2) The Utilities assume "discount" is defined as the incentive offered by the program. Please refer to the filed BC model for each utility. The Inputs tabs – rows 334-399 for electric programs and rows 90-111 for the natural gas programs – display the average prescriptive or custom calculated incentive for each measure in column J. The average total resource cost for each measure is in column I. The average and maximum incentive varies by utility and by year.

3) Please refer to the response provided to PUC 1-004-2 part 5 for a description of how incentives within the ES Products Program are determined.

4) There is not necessarily a direct correlation between the incentive level and the amount of energy savings a measure achieves. Many variables factor into assigning an incentive level for a measure, including the incremental cost between a standard efficiency and high efficiency measure and the estimated volume that offering an incentive will achieve among customers.

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Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-005-5 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 5 - Plan Chapter 4 re: NHSaves Residential and Income Eligible Energy Efficiency Programs
Reference section 4.4 of the Plan re: the Home Performance Program.

1) What is the average and maximum discount per measure dollar value?

2) What is the average and maximum discount per measure as a percentage of total measure cost?

Response:

1) The Utilities assume "discount" is defined as the incentive offered by the program. Please refer to the filed BC model for each utility. The Inputs tabs – rows 186-330 for electric programs and rows 60-88 for the natural gas programs – display the average prescriptive or custom calculated incentive for each measure in column J. The average total resource cost for each measure is in column I.

2) The Utilities assume "discount" is defined as the incentive offered by the program. Please refer to part 1 of this response. The incentive for weatherization services within the Home Performance programs is equal to approximately 75% of the project cost up to $6,000, which varies based on the EE opportunities identified, the size of the home, and other factors. The average and maximum incentive varies by utility and by year.

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Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-005-6 **Page 1 of 3**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 5 - Plan Chapter 4 re: NHSaves Residential and Income Eligible Energy Efficiency Programs
Reference section 4.6 of the Plan re: the Home Energy Assistance Program.

1) What is the average and maximum discount per measure dollar value?

2) What is the average and maximum discount per measure as a percentage of total measure cost?

3) Describe steps taken to ensure that program measures benefit income eligible customers after installation. In so doing, address:
    a. Whether measures installed at tenant occupied residences have any protections against evictions or increases to rental rates for current and future tenants.
    b. How compliance with any ongoing requirements is monitored and enforced.

4) Are benefits from Home Energy Assistance Program measures separately tracked between income eligible property owners and income eligible tenants?

5) Is the $15,000 incentive cap imposed on multi-unit buildings with multiple qualifying participants on a per-building basis, or can a single structure with multiple qualifying participants receive multiple incentives?

6) Is there a stay-out for units or buildings after measures have been implemented in a program year?

7) Do participant savings account for LIHEAP/FAP, EAP, Weatherization Assistance Program, or other assistance from the state or federal government?

Response:

1 & 2) The Utilities assume "discount" is defined as the incentive offered by the program. Please refer to the filed BC model for each utility. The Inputs tabs – rows 5-144 for electric programs and rows 5-45 for the natural gas programs – display the average prescriptive or custom calculated incentive for each measure in column J. The average total resource

cost for each measure is in column I. As described in Section 4.6, Bates page 73, the Utilities' HEA Program "covers the entire cost of energy auditor-recommended energy efficiency improvements and pre-weatherization barriers." As with the Home Performance Program, project cost varies based on the EE opportunities identified, the size of the home, and other factors. The average and maximum incentive varies by utility and by year.

3) Program interventions in the HEA program consist of building and EE improvements in the homes of participants who have been income qualified by their respective Community Action Agency and determined to meet the definition of low income. In the case of low-income participants who are renting their homes from a landlord, the Utilities employ a Landlord-Tenant Agreement, where both the landlord and tenant agree that rent and occupancy will not be altered for a period of 12 months after the completion of the weatherization. While this form is used as a deterrent, the Utilities do not monitor landlord-tenant relationships or intervene in the case of evictions or rent increases. However, because the low-income tenant receiving weatherization services is primarily served by the Community Action Agency, they would have access to supports and potential referrals from the agency in the case of disputes, and the agreement could likely be used to support any wrongful eviction or rent increase.

4) The benefits from the BC Models track the value of the AESC benefits realized to the system as well as the non-energy impact adder applied for the impacts realized within the living quarters of the property. The benefits from the BC Models do not delineate between renters and owners.

5) Each single-family home or unit/apartment within a multi-family home that is eligible for the HEA program is able to access the program and receive incentives for their respective project. The Utilities reserve the ability to surpass the $15,000 incentive level to perform comprehensive projects for customers that minimize the overall costs and inconvenience associated with performing all cost-effective work. This has prevented the Utilities from needing to split work over multiple years or worse, performing a portion of the work and then subsequently leaving some of the work unaddressed.

6) Any given building (utility service location that corresponds to the utility customer of record) can participate once per year. If additional cost-effective measures remain, and the customer with the previously participating building is still eligible for the program, the customer and service location can participate to implement those measures in a subsequent year.

7) No, the income-eligible savings portrayed within the NHSaves programs solely represent the impacts of the NHSaves' income-eligible program funding and measures.

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Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-005-7 **Page 1 of 3**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 5 - Plan Chapter 4 re: NHSaves Residential and Income Eligible Energy Efficiency Programs
Reference section 4.1.1 of the Plan re: Financing
1) Reference Bates page 56 of the Plan re: on-bill financing.
a. List which programs qualify for utility on-bill financing.
b. Do participating customers pay interest on financed principal amounts?
i. If yes, at what rate or range or rates?
ii. If yes, how is the rate determined?
iii. What happens if the borrower defaults?
iv. Provide bad debt information, including a summary of delinquent balances and write offs.
c. Does Eversource's use of credit scores in its lending criteria result in better repayment performance compared to other utilities?

2) Reference Bates page 56 of the Plan re: Residential Energy Efficiency Loan Program.
a. List which programs and measures qualify for financing through the Residential Energy Efficiency Loan Program.
b. The joint utilities state that "[t]he NHSaves Programs provide the lender an up-front interest payment to reduce the customer's loan to two percent APR."
i. Provide "baseline data" and the 2024-2026 Plan annual budgets for upfront interest payments.
ii. What is the average upfront interest payment?
iii. What is the maximum upfront interest payment?

3) Reference Bates page 56 of the Plan re: NHSaves Partnership Initiative. a. Does the NHSaves Partnership Initiative have a dedicated budget?
i. If yes, please provide that budget as "baseline data" and as proposed in the Plan.

Response:

1a) The Home Performance Program as well as customers in Unitil's Energy Star Products program who are purchasing a heating system are eligible for Residential on-bill financing.

1b) There is a 0% interest rate for customers utilizing Residential on-bill financing.

1bi) N/A

1bii) N/A

1biii) Delinquent and defaulting customers will be given an opportunity to correct past due balances and reminded of their obligation; further collection action may be pursued if needed. If a borrower defaults, the amount of the on-bill financing pool is permanently reduced by the defaulted amount.

1biv) For 2018 through Q2 2023, there only has been one NHSaves residential on-bill financing default for $178.

1c) Repayments for all Utilities' on-bill financing loans have been strong, as described in the prior response, with each utility's existing policies seen as sufficient for operating its respective on-bill offering.

2a) The Home Performance Program qualifies for Residential Third-Party Financing.

2bi) Interest rate buydowns are paid for out of the incentive budgets for the Home Performance program and are not broken out into a separate budget line. Please refer to Attachment PUC 1-005-7, which compiles the requested information from the Utilities' quarterly reports filed with the Commission.

2bii) The average incentive varies by utility and by year. Please refer to the response provided to 2bi.

2biii) The maximum upfront buydown amount varies by utility and by year, and would be based on the maximum loan amount ($15,000), term (seven years), and current interest rate charged by the individual lending institution.

3) Eversource is the only utility that currently funds and operates an NHSaves C&I Partnership initiative. The actuals for 2018-2022 and budgets for 2023-2026 are as follows:

Year	Amount	Reference
2018:	$1,916	Eversource Annual PI Filing
2019:	$17,216	Eversource Annual PI Filing
2020:	$1,854	Eversource Annual PI Filing
2021:	$921	Eversource Annual PI Filing
2022:	$15,217	Eversource Annual PI Filing
2023:	$11,867	2022-2023 Plan Filing, Bates Page 526
2024:	$15,217	Bates Page 152
2025:	$14,057	Bates Page 153
2026:	$12,986	Bates Page 154

New Hampshire Utilities
Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-006-1 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 6 - Plan Chapter 5 re: Active Demand Reduction Programs
Do the Active Demand Response Programs include any measure or component related to lighting?

Response:

The Residential ADR program solely contains Wi-Fi thermostats and batteries (Eversource only). The C&I ADR program is technology agnostic, meaning any technology or process application can be undertaken to reduce load during a called event, including turning off the lights. Reductions are measured against the customer's baseline usage.

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Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-006-2 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 6 - Plan Chapter 5 re: Active Demand Reduction Programs
Please provide a ranking of measures within the Active Demand Response Programs by B/C ratio for all customer classes.

Response:

The C&I interruptible load has the highest average BC ratio, followed by the Residential thermostat program, followed by the Residential battery program.

New Hampshire Utilities
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Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-006-3 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 6 - Plan Chapter 5 re: Active Demand Reduction Programs
Do the Active Demand Response Programs include any measure or component related to lighting?

Response:

Please refer to the response to PUC 1-006-1.

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Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-006-4 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 6 - Plan Chapter 5 re: Active Demand Reduction Programs
Reference Bates pages 81, table 5-4. Provide comparable "baseline data" from the pilot programs.

Response:

The requested information is not "baseline data" for the proposed programs in the 2024-2026 Plan, as the ADR pilots differ in scale by design. The ADR pilot programs were intentionally limited in funding and were only offered by two of the four electric utilities, while the ADR programs proposed for 2024-2026 are scaled differently as full programs and will be offered by three of the four electric utilities. However, to be responsive to the question, please refer to Attachment PUC 1-006-4 for the requested information.

New Hampshire Utilities
Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-007-1 **Page 1 of 3**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 7 - Plan Chapter 6 re: Planning Elements
Reference section 6.3 of the Plan re: Benefit-Cost Testing.
1) Please provide the documentation from the National Standards Practice Manual to support the assertion at Bates page 91 that the "... framework ... specifies the need for a low discount rate to accurately evaluate energy efficiency investments."

2) What is the currently allowed Weighted Average Cost of Capital (WACC) for each of the rate regulated utilities participating in the Plan?

3) Have the joint utilities considered the application of different discount rates for different customer groups? For example, have income eligible discount rates been considered?

4) State all assumptions and the source of each assumption used in the B/C model.

5) State how the assumptions are consistent with the economic and market realities in New Hampshire.

6) State how the assumptions affect the sensitivity of the model's results. Please confirm that Avoided Distribution Costs used in the B/C and ADR models for all utilities are based on 2017 figures and water costs are based on 2016 dollars.
a. If so, please explain the rational for using these figures.

Response:

1) The language at Bates 91 of the Plan does not assert that the NSPM framework itself specifies the need for a low discount rate, as the framework itself is agnostic. Rather, the language at Bates 91 is referring to the fact that the NSPM framework as applied to New Hampshire necessitates a low discount rate as concluded by Synapse Energy Economics, in the "New Hampshire Cost-Effectiveness Review – Application of the National Standard Practice Manual to New Hampshire" approved by Order No. 26,322.

By way of background, in 2019, the Benefit Cost Working Group presented to the Commission a report and recommendations informed by the "New Hampshire Cost-Effectiveness Review – Application of the National Standard Practice Manual to New Hampshire" authored by Synapse Energy Economics. Synapse is one of the primary technical experts and co-authors behind the National Standard Practice Manual ("NSPM"). In fact, Tim Woolf of Synapse was project lead for both the NSPM and the NH Cost-Effectiveness Review, and is considered an authority on the application of the NSPM in general and in New Hampshire's cost-effectiveness testing specifically. The Synapse-authored review states on Page 10 that "Utilities should continue the current practice of using a low-risk discount rate. This discount rate should be applied to the Granite State Test as well as any secondary tests."

In applying the NSPM to New Hampshire, Synapse facilitated a nearly year-long process involving a broad group of New Hampshire energy efficiency stakeholders including the then-staff of the Commission and their consultants, staff of the Office of the Consumer Advocate, staff of the NH Department of Environmental Services, NH Legal Assistance, Conservation Law Foundation, Acadia Center, and the Utilities. The recommendations of this working group, including the application of the Granite State Test to the EE programs, a key element of which is utilizing a low discount rate, were subsequently submitted to the Commission, and were approved by the Commission in Order No. 26,322. The Granite State Test and benefit-cost framework was then codified in law with the passage of HB 549 in 2022.

2) Eversource's WACC per their Form F1 filed with the Commission on August 15, 2023 indicates a WACC of 6.56%. The current Liberty Electric WACC (Weighted Rate) is 7.60% per Docket DE 19-064, Order Number 26,376. The current Liberty Gas WACC (Weighted Rate) is 6.96% per Docket DG 20-105, Order Number 26,505. Unitil Electric (UES) WACC (Weighted Rate) is 7.42% per Docket DE 21-030; Unitil Gas (NU) WACC (Weighted Rate) is 7.20% per Docket DG 21-104. However, the Utilities' current WACC is outside the scope of this proceeding as it not necessary information to reach a determination as to whether to approve the 2024-2026 Plan. The Utilities have updated the discount rate consistent with the existing framework and in compliance with HB 549 and SB 113, which are the relevant and prescribed parameters for Plan approval.

3) The Utilities did not consider different discount rates for different customer groups as doing so would have deviated from the existing framework contrary to current law.

4) Please refer to the worksheet labeled "Lookups" in each of the Utilities' submitted BC Models, as well as the TRM (Attachment S) for a list of all assumptions used in the BC Models.

5) The BC Models reflect the latest AESC results and the latest TRM and evaluation results available as part of New Hampshire's EM&V Working Group, which assures that the resulting assumptions are accurate for application and consistent with the economic and market realities in New Hampshire.

6) Please refer to the responses to parts 1-5 above.

   a. The Utilities confirm that the current avoided costs for Water and Distribution are based on the above figures and note that the AESC does not update these values.

      Since the AESC does not include avoided water costs, water and sewer rates do not appear to be changing much faster or slower with inflation, and because the water savings obtained from the programs is minimal, it is not expected that an update would materially change the overall benefits of the programs if a revision was made to the 2016 values cited in the models, which are adjusted to current-day dollars for benefits calculations.

      For Distribution costs, the Utilities are currently in the process of reviewing and updating these values.

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Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-007-2 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 7 - Plan Chapter 6 re: Planning Elements
Please provide a tracked-change version of the Technical Resource Manual to show the changes between the current and previous manuals.

Response:

Each version of the TRM provides all changes made from the prior version. Please see Appendix 3 of Attachment S for all changes and revisions from the TRM filed last year.

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Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-007-3 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 7 - Plan Chapter 6 re: Planning Elements
Reference Bates page 93-94, tables 6-1 and 6-2 of the Plan. Provide comparable "baseline data" for each of the joint utilities.

Response:

Please refer to the Performance Incentive Working Group final report on the Commission's website and the "Performance Incentive" section (Bates pages 87-90) in the Utilities' 2022-2023 Plan filing made on March 1, 2022 in Docket No. DE 20-092 for the performance incentive framework codified in law by HB 549, which serves as baseline data.

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Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-007-4 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 7 - Plan Chapter 6 re: Planning Elements
Provide combined data for each utility on the Performance Incentive (in $'s) and the percentage of maximum achievable for 2017, 2018, 2019, 2020, 2021, 2022, as well as a total.

Response:

Please refer to the response to PUC 1-002-1 regarding comparisons across years or planning periods. The performance incentive framework developed by the Performance Incentive Working Group, approved by the Commission, and codified in law by HB 549 is structured in a way that encourages the Utilities to strive for and, if possible, exceed the goals established in each EE plan. Further, the framework is designed so that each Utility must achieve cost-effectiveness for the portfolio of programs and surpass minimum thresholds to earn any incentive at all. It also properly scales incentives to encourage the Utilities to continue seeking additional benefits and savings for the programs, if possible, while also safeguarding against overcompensation by having caps on each component of the framework and by having a robust stakeholder process help inform the goals established within each plan. The performance incentive dollars from the last six years should not be relied upon in a determination as to whether to approve the 2024-2026 Plan or the performance incentive within it, since the Performance Incentive framework was solidified by HB 549 and is unrelated to performance incentives achieved by the Utilities in prior plan years. However, to be responsive to the question, please refer to Attachment PUC 1-007-4 for the requested information.

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Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-007-5 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 7 - Plan Chapter 6 re: Planning Elements
Why are "adders" applied for weatherization measures? How are the value of such "adders" determined?

Response:

Non-energy impacts related to increased comfort, decreased noise, and avoided negative health outcomes are factored into the cost-effectiveness for participants who receive weatherization measures in the income-eligible program, in compliance with the BC Working Group recommendations and the GST. This is an annual dollar value of $405.71 per weatherization project that is added to total benefits in the income-eligible program to reflect the non-energy impacts referenced above. This value is taken from the New Hampshire Utilities Home Energy Assistance Program Evaluation Report, published in 2020 (https://www.puc.nh.gov/Electric/Monitoring%20and%20Evaluation%20Reports/20200729-NHSaves-HEA-Evaluation-Report-FINAL.pdf).

New Hampshire Utilities
Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-007-6 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 7 - Plan Chapter 6 re: Planning Elements
Please confirm whether or not subsidies are adjusted to maximize the B/C ratios across residential and C&I offerings.

Response:

Program funding has been designed under the existing EE framework consistent with all applicable state mandates and past precedent to maximize customer access to the programs and deliver cost-effective programs, while simultaneously taking advantage of influences such as best practices in other states, new data from evaluation studies and results, evolving customer demand for various EE measures, and market supply and expertise in delivering measures and projects—all to optimize customer benefits from the programs.

New Hampshire Utilities
Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-007-7 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 7 - Plan Chapter 6 re: Planning Elements
What incremental branding activities will be undertaken pursuant to the 2024-2026 Plan that were undertaken between 2021 and 2023?

Response:

Marketing efforts undertaken in 2021-2023 will largely be continued in 2024-2026. Bates pages 82-84 discuss the NHSaves marketing efforts for 2024-2026.

New Hampshire Utilities
Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-007-8 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 7 - Plan Chapter 6 re: Planning Elements
Reference Bates page 85, Section 6.2. What is the budget for the workforce development and education of customers and contractors?

Response:

The budget for statewide workforce development and education of customers and contractors in the 2024-2026 Plan is $2.181 million. Additionally, Eversource has budgeted $1.2 million to train and expand the workforce necessary to meet the needs of income-eligible customers.

New Hampshire Utilities
Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-008-1 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 8 - Plan Chapter 7 re: Evaluation, Measurement & Verification
Please provide a detailed list of applicable utility modeling and tracking system software that currently exists.

Response:

Please refer to Attachment P, Bates page 655 under "Utility modeling and tracking system software" for the detailed list of tracking system software pertaining to the Strategic Evaluation Plan. Included in that list are the applicable utility modeling and tracking system software, Compass for Home Performance and the Targeted Retrofit Energy Analysis Tool ("TREAT") for HEA. The Utilities also employ several other modeling and tracking processes and applications, including the BC Models, custom screening tools based off the BC Models, the eTRM for savings assumptions, HERs software, and internal tracking software such as Tracksys, eTrack Plus, and Encompass.

New Hampshire Utilities
Docket No. DE 23-068

Date Request Received: August 04, 2023 **Date of Response: August 25, 2023**
Data Request No. PUC 1-008-2 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Subset 8 - Plan Chapter 7 re: Evaluation, Measurement & Verification
Reference Bates page 99. What incremental improvements to utility modeling and tracking system software are expected through the 2024-2026 Strategic Evaluation Plan?

Response:

The 2024-2026 Strategic Evaluation Plan allows for the vendor that owns TREAT and Compass – Performance Systems Development ("PSD"), to release updated versions of the software with new features or improvements to existing features. Updates could include expanded measure libraries, reporting functions, or other integrations. Updates are anticipated following the completion and adoption of relevant EM&V study findings and the 2024 AESC study update.

Request from: New Hampshire Public Utilities Commission

Request:
Subset 8 - Plan Chapter 7 re: Evaluation, Measurement & Verification
How are the programs monitored for fraud? Has any fraud been reported in the past?

Response:

The Utilities are committed to ensuring that customer funds dedicated to EE are expended appropriately towards goals and objectives consistent with the NHSaves programs and approved Plan. The Utilities have developed a series of quality control checks and procedures, which were initially put in place with the first EE plans and have been refined over time. These controls are critical to ensuring the integrity of New Hampshire's EE programs.

For contracted vendors, the Utilities utilize a competitive bid process to ensure vendors meet specific criteria including, but not limited to financial stability, IT/data security, quality control practices and adherence to supplier codes of conduct. The Utilities typically require that all vendors whose contracted scope of work includes entering customer premises perform background checks for their employees as a part of their contractual obligations, as outlined in the terms and conditions.

All vendors engaged in the installation of EE services or equipment are required to provide project data or submit data uploads into the Utilities' tracking system which is reviewed by utility personnel prior to invoices being submitted for payment into the Utilities' accounts payable systems. Additionally, the Utilities' protocols require customers to sign applications to acknowledge projects are accepted as proposed and require customers or contractors to provide documentation supporting project costs, as well as documentation supporting the verification and validation of the project such as permits, photographs of the worksites (before and after a project is completed), and signed certifications of compliance provided by the vendor submitting the invoice. The documentation required must be provided by an authorized representative attesting to the veracity of the documentation.

Inspection sampling and protocols are built into NHSaves projects and also included in the Utilities' project workflows. Projects are reviewed for cost and to ensure that the savings are in alignment with the NHSaves programs and calculated according to the TRM. Pre- and post-

installation inspections are conducted by independent third parties, or in some cases Utility staff, and include inspection reports.

Lastly, all invoices are reviewed and approved according to established internal processes for review. Employee training on invoice reviews and approvals, business ethics, and fraud prevention are conducted as part of each utility's compliance programs. Please see below for more specific details by program sector.

Commercial Industrial and Municipal (CIM) Sector

In the commercial sector, the strategies employed to ensure quality assurance and control aligns with the nature of the project. The Utilities offer several different pathways for C&I projects, which include: (1) downstream pathways, such as equipment rebates, incentives for new construction, and incentives for energy efficiency improvements at existing buildings; (2) mid-stream pathways, which provide incentives directly to wholesalers and retailers, and (3) direct installation services.

Downstream pathways involve both "prescriptive" applications, such as equipment rebates, or custom incentives that are determined based on energy savings achieved for a particular project. For prescriptive applications, the quality assurance process focuses primarily on post-installation inspections. For custom incentives, applications must include a description of pre-existing conditions and proposed post-installation measures. Prior to starting work, the pre-existing conditions and proposed measures must be documented and, in some cases, inspected. Projects are selected for inspection, based on each program's historic size in terms of number of projects and amount of savings or incentive dollars. Either internal Utility staff or independent contractors conduct these inspections.

With respect to mid-stream pathways, the PAs implement a quality assurance and quality control plan with the contracted vendor(s) implementing the initiative and a designated third-party vendor ("Verification Vendor"), who performs on-site verifications. The results of these verifications determine the success of the initiative and the eligibility of distributors to submit incentive requests.

For direct installation measures, the contracted Utility vendors either install measures on their own or work with the customer's chosen vendor to document the pre- and post-conditions. These direct installations are also subject to third-party inspections either by a vendor or by Utility staff. In cases involving complex systems, metering or data monitoring may be requested and reviewed to ensure that the performance meets the engineering estimates.

Residential Sector

ENERGY STAR Products

The rebate fulfillment vendor validates every rebate submission to ensure all requirements are met prior to approving applications. Any application that does not meet all the requirements is subsequently marked "denied" or "non-compliant" pending resolution if resolution is possible. The Utilities also implement third party inspections for electric and natural gas HVAC equipment.

Home Energy Assistance and Home Performance with ENERGY STAR

Both programs implement a quality assurance process performed by an independent third-party vendor. The vendor randomly selects at least 10% of jobs that have been batched for invoicing and compares the recommended measures from the approved work order to the billed measures, and billed measures to installed measures for compliance with program specifications.

ENERGY STAR Homes

To ensure each home earns ENERGY STAR certification, third-party verification by a certified home energy rater is required. The HERS rater works closely with homeowners and builders throughout the construction process to help determine the necessary energy-saving equipment and construction techniques. The HERS rater will conduct at least two on-site inspections. First is a mid-point insulation inspection: the HERS rater will need to inspect 100% of the insulation prior to any drywall being installed. Then there is a final inspection where the HERS rater will conduct when the house is in move-in condition. The final inspection will include a blower door test to measure air tightness and a duct leakage test to measure air flow through the ducts. The rater will also collect all model numbers off heating and cooling equipment, appliances, and lighting fixtures to ensure the proper measures and quantities were installed.

Reported Fraud

The Utilities are not aware of instances of fraud in the NHSaves programs. However, continued diligence, monitoring and ongoing review and updates to program procedures remains a critical focus. The possibility of fraud is rarely diminished to zero and the Utilities have seen instances in other states and jurisdictions. The Utilities are committed to developing and implementing strong program controls and procedures to prevent fraud. The purpose of program procedures and controls is threefold; first to prevent instances of intentional fraud, second to catch and

correct customer and vendor errors or misunderstandings so that they do not turn into larger issues, and third to ensure program dollars and savings are utilized and accounted for correctly."

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Data Request No. PUC 1-009-1 **Page 1 of 1**

Request from: New Hampshire Public Utilities Commission

Request:
Reference each of the joint utilities' "...B/C Model 24-26...." Excel files:
1) For all programs listed in column A (for example Excel rows 12 through 45 for Eversource), separate the Benefits (Excel columns F and G) and Utility Costs (Excel column J) into participating customers' and non-participating customers' benefits and utility costs, and provide the information in live Excel format. Please conduct this analysis for each of the joint utilities and for both Electric and Gas, as appropriate.
2) Please confirm that "Customer Costs" as reported in Excel column K are solely associated with participants.
3) Provide a narrative support (including assumptions) for the breakup analyses, as requested.

Response:

1) The Utilities do not separately calculate or quantify the benefits accruing to participants and the benefits accruing to non-participants. The BC models are designed to aggregate the total value of all benefits accumulating from the projects comprising the programs, undifferentiated as to whom each benefit accrues, and compare the total benefits to the aggregated costs of delivering the programs. The Utilities can definitively say that all system benefits necessarily accrue to all users of the electric or natural gas system, i.e., both participants and non-participants.

2) Customer costs depicted in column K of the Cost Effectiveness tabs of the BC models are solely associated with costs incurred by program participants, as they reflect the customer copayment for the particular project(s) undertaken.

3) Please refer to the responses provided to parts 1 and 2.