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October 31, 2019

Ms. Debra A. Howland
Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

**Re: DE 17-136, Electric and Gas Utilities
2018-20 New Hampshire Statewide Energy Efficiency Plan
B/C Working Group Recommendations Regarding New Hampshire Cost-Effectiveness Review
and Energy Optimization through Fuel Switching Study**

Dear Ms. Howland:

Please find enclosed for filing an original and six copies of the following studies conducted with technical oversight by the Benefit/Cost ("B/C") Working Group:

- (1) *New Hampshire Cost-Effectiveness Review* ("Cost-Effectiveness Test Review"); and
- (2) *Energy Optimization through Fuel Switching Study* ("Energy Optimization Study").

As discussed in further detail below, based on the recommendations contained in the Cost-Effectiveness Test Review and Energy Optimization Study and related discussions that took place at the B/C Working Group over the past eight months, the B/C Working Group recommends that the Commission:

- (1) Adopt the Granite State Test ("GST") as the primary test for energy efficiency cost-effectiveness screening;
- (2) Adopt the Utility Cost Test ("UCT") and Secondary Granite State Cost Test ("GST-2") as the secondary tests for energy efficiency cost-effectiveness screening, requiring the utilities to perform and file both alongside the primary test;
- (3) Consider, if proposed following additional review during development of future plans, other alterations to cost-effectiveness screening practices recommended by the Cost-Effectiveness Test Review as detailed in Section II.4 below; and
- (4) Provide guidance as to whether stakeholders should continue, through the planning process identified in Order No. 26,207, to investigate energy optimization and related load factor improvement opportunities, including through:
 - a) Establishment of any relevant programs or pilot programs (e.g., for air source heat pumps) to evaluate the reasonableness of accounting for unregulated fuel savings and

increases in regulated energy consumption resulting from energy optimization measures; and/or

b) Consideration of a net MMBtu savings goal component of the electric programs and any related alterations to the performance incentive mechanism during the program planning process for the next triennial plan.

I. PROCEDURAL BACKGROUND

This filing is submitted pursuant to Order No. 26, 207 (December 31, 2018) at 8-9, which designated the B/C Working Group as “the technical lead in two... studies, one analyzing cost effectiveness and a second concerning energy optimization,” and required that “[a]t conclusion of these studies, recommendations will be submitted for review and approval by the Commission by August 2019, so that results can be used in developing the second triennial plan.” Order No. 26,207 also designated the Evaluation, Measurement, and Verification (“EM&V”) Working Group as the administrative lead on both studies.

On August 30, 2019, Commission Staff, on behalf of the B/C Working Group, filed a letter requesting extension of the B/C Working Group’s Report deadline until October 31, 2019. The Commission approved that request on September 5, 2019.

On behalf of the B/C Working group, Staff submits this Report summarizing the findings of the Cost-Effectiveness Test Review and Energy Optimization Study, as well as recommendations for next steps subsequent to those studies.¹ The working group agreed that participants may file comments related to the recommendations below concurrent with the submission of this Report, while also recognizing that the Commission may provide additional avenues for stakeholder input.

II. COST-EFFECTIVENESS TEST REVIEW

Approved by the Commission in Order No. 26,207, the 2019 Energy Efficiency Plan Update Settlement Agreement contained the following parameters for the Cost-Effectiveness Test Review:

In early 2019, the EM&V Working Group will solicit and hire a consultant to conduct a review of issues relating to the cost-effectiveness test for energy efficiency programs in accordance with the framework established in the National Standard Practice Manual (“NSPM”). The NSPM, and more specifically the Resource Value Framework, is intended to provide a standardized method for analyzing energy efficiency costs and benefits in light of state policy goals. The NSPM consultant will be charged with reviewing the application of such methods in New Hampshire. The consultant will be selected and managed by the EM&V Working Group. Discussions regarding stakeholder input to the NSPM review and its findings, as well as whether or how to incorporate those findings in New Hampshire, shall be undertaken in the B/C Working

¹ B/C Working Group participants included representatives from Commission Staff (including their consultants), the Office of Consumer Advocate (OCA), the Department of Environmental Services (DES), Eversource Energy, Liberty Utilities, Unil Energy Systems, the New Hampshire Electric Cooperative, The Way Home, through its Counsel New Hampshire Legal Assistance (NHLA), Conservation Law Foundation (CLF), and Acadia Center. Meetings of the B/C Working Group were open to the public.

Group meetings. ... The Settling Parties anticipate the B/C Working Group will submit a report to the Commission which will include recommendations for incorporation of any relevant findings from the NSPM review. ... No Settling Party shall be bound by the recommendations of the B/C Working Group and each Settling Party may make its own recommendations to the Commission concerning the findings of the NSPM review.

2019 Update Settlement at 11-12.

1. Cost-Effectiveness Test Review Process

During early 2019, the EM&V Working Group issued a request for proposals, reviewed responses, and selected Synapse Energy Economics, Inc. (“Synapse”) to complete the Cost-Effectiveness Test Review. The EM&V Working Group continued to provide administrative oversight of Synapse for the duration of the study, while the B/C Working Group provided stakeholder insights and inputs which were incorporated into the review. The B/C Working Group met eight times between February 2019 and September 2019. The working group members reviewed and commented upon numerous drafts of Synapse’s study during that time period.

In reviewing the New Hampshire cost-effectiveness screening framework, as provided for in the 2019 Update Settlement, the B/C Working Group was guided by the National Standard Practice Manual (“NSPM”)’s Resource Value Framework. The NSPM was published in May 2017 as a nation-wide update to screening practices initially set forth in its predecessor the California Standard Practice Manual (“CSPM”).²

The NSPM sets forth fundamental principles for cost-effectiveness analysis and looks to state policies as the basis for whether to include a cost or benefit within a jurisdiction’s screening framework, resulting in a test that is tailored to a jurisdiction’s existing policy guidance.

The NSPM suggests seven steps that a jurisdiction should undertake when contemplating revision or development of a cost-effectiveness screening test.³ These steps are:

- (1) Identify and articulate the jurisdiction’s applicable policy goals;
- (2) Include all the utility system costs and benefits;
- (3) Decide which non-utility impacts to include in the test, based on applicable policy goals;
- (4) Ensure that the test is symmetrical in considering both costs and benefits;
- (5) Ensure the analysis is forward looking and incremental;
- (6) Develop methodologies to account for all relevant impacts, including hard-to-quantify impacts; and

² California Standard Practice Manual, October 2001. Available at: [https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy - Electricity and Natural Gas/CPUC STANDARD PRACTICE MANUAL.pdf](https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/CPUC_STANDARD_PRACTICE_MANUAL.pdf)

³ National Standard Practice Manual. May 2017. Page 15. Available at: https://nationalefficiencyscreening.org/wp-content/uploads/2017/05/NSPM_May-2017_final.pdf

(7) Ensure transparency in presenting the inputs and results of the cost-effectiveness test.

The B/C Working Group allocated a significant portion of its in-person discussions towards step three, interpreting New Hampshire's existing policy guidance to consider which non-utility system impacts should be included in the cost-effectiveness test. The energy efficiency policy guidance identified and considered by the B/C Working Group is included in Appendix A of the Cost-Effectiveness Test Review and includes state statutes, Commission precedent, the State Energy Strategy, and other relevant policies.

Based on its interpretation of that guidance, the B/C Working Group recommends that the Commission adopt a new primary test under which investments will be screened for the purposes of New Hampshire's energy efficiency programs. The B/C Working Group also recommends that the Commission adopt two secondary cost-effectiveness tests that the utilities shall perform and file with the Commission as part of their EERS planning and reporting processes, with the results of the primary test in order to help inform resource allocation decisions, as well as treatment of marginally cost-effective programs. The B/C Working Group recommends that the Commission adopt these changes before the end of 2019, if possible, so they may be incorporated into the planning process for the next three-year plan, which has just recently started. Each test is summarized below, with a table detailing the universe of costs and benefits included in each test provided as Appendix 1 of this Staff Report.

2. Primary Test: The Granite State Test

The cost-effectiveness test recommended by consensus of the B/C Working Group, referred to in the review as the Granite State Test ("GST"), focuses on costs and benefits which accrue to the utility system, while also considering impacts associated with unregulated fuels, water, fossil fuel emissions, and income eligible participants. Cost-Effectiveness Test Review at 50-52. If an energy efficiency investment is projected to produce a net benefit to ratepayers under the primary test, there is a presumption that the investment can be made and cost recovery is appropriate. The corollary to this is also true – if an investment does not result in a net benefit under the primary test there is a presumption that the investment should not be made.⁴ However, the primary test should not be considered in a vacuum. In some instances, when deciding whether to approve an investment, the Commission may wish to weigh the primary test results alongside other factors, including but not limited to: the results of secondary tests; least-cost planning imperatives; rate, bill, and participation impacts; jobs and economic development impacts; customer equity; and any other important policy goals.

Adopting the GST would be a departure from the Total Resource Cost ("TRC") Test, which has been the Commission's framework for screening investments in energy efficiency for nearly two decades. Order No. 23,574 at 14 (November 1, 2000). The TRC is not applied uniformly from jurisdiction to jurisdiction. It generally includes utility system costs and benefits, as well as a spectrum of participant costs (such as the customer copay for a given measure) and participant benefits (such as improved occupant comfort, productivity, and health) whose quantifications are sometimes contentious. In New

⁴ During B/C Working Group discussions, stakeholders adopted the phrase "go-no go test" to describe the idea of the primary test being the paramount factor to determine whether a program should be implemented.

Hampshire, the TRC also includes a benefit associated with avoided fossil fuel emissions that the group recommends carrying forward to the GST. Cost Effectiveness Test Review at 16-18.

A primary difference between the GST and the current version of the New Hampshire TRC is that the GST does not include many of the participant benefits or costs included within the TRC except for those related to low income participants, and instead places greater emphasis on utility system costs and benefits.

Some classes of impacts recommended for inclusion in the GST are not directly quantified or given a monetary value within New Hampshire's current TRC.⁵ Hard-to-quantify utility system impacts not included within the current TRC test, such as market transformation and reliability, will be accounted for in the GST on a qualitative basis unless and until values with an acceptable level of rigor and confidence are developed. *Id.* at 51. Income eligible participant impacts, which are considered within the current TRC test through a proxy benefit adder of 20%, are the focus of an ongoing evaluations being overseen by the EM&V Working Group. *Id.* After the evaluation studies are complete, the B/C Working Group will determine how to use those results and may choose to recommend accepting the results of the ongoing evaluations, adopt reasonable proxies based on the results of the evaluations, or continue use of the existing benefit adders. 2019 Update Settlement at 10.

3. Secondary Tests: Utility Cost Test, Secondary Granite State Test

The B/C Working Group also recommends that the utilities perform and file with the Commission the results of two other cost-effectiveness screening tests: (1) the Utility Cost Test ("UCT"); and (2) the Secondary Granite State Test ("GST-2"). Cost-Effectiveness Test Review at 53-63. The results of the two secondary cost-effectiveness tests would be used to inform resource allocation decisions, as well as treatment of marginally cost-effective programs. *Id.* at 53-54, 60.

The UCT includes only those cost and benefits which affect the utility system and the distribution utility's revenue requirement. *Id.* at 54. Of the three tests the utilities will perform and file for Commission review, the UCT includes the narrowest spectrum of impacts.

The GST-2 accounts for all of the benefits and costs that are included in the primary test, but also includes participant costs, participant non-energy impacts beyond the income eligible sector, income eligible societal benefits, and environmental impacts beyond the fossil emission value currently used in New Hampshire. *Id.* at 55-58. Of the three tests the utilities will perform and file for Commission review, the GST-2 accounts for the broadest spectrum of impacts.

Some classes of impacts recommended for inclusion with the GST-2 are not directly quantified or given a monetary value within New Hampshire's current TRC. These include participant non-energy impacts, income eligible societal impacts, and environmental externalities beyond those currently embedded in the avoided energy costs and those calculated for fossil fuels in the New Hampshire TRC. *Id.* at 56. For the purposes of the GST-2 test, the B/C Working Group will determine whether

⁵ Methodologies for measuring specific hard-to-quantify impacts were beyond the scope of the review, but given their importance, the B/C Working Group asked Synapse to provide some information about this topic in the review. Cost-Effectiveness Test Review at 9, 34-41, 51.

to accept the results of the ongoing NEI evaluations, adopt a reasonable proxy based on the results of those evaluations, or continue use of the existing benefit adders. 2018-20 Plan Settlement at 10.

4. B/C Working Group Additional Cost Effectiveness Screening Recommendations

The Report also contains discussions and recommendations related to cost-effectiveness screening outside of the current configurations of the specific recommended screening tests. In several instances, the report recommends continuing current practices. In others, the report suggests considering an alteration to current practices in future program plan filings. These recommendations include:

- (1) Continuing the practice of considering the value of economic development benefits at the portfolio level and separately from cost effectiveness screening, but quantify such impacts in job-years. Cost-Effectiveness Test Review at 66-67;
- (2) Considering extension of the screening model to allow for measure lives beyond 25 years, possibly to 30 years to match the time horizon of the Avoided Energy Supply Components Study. *Id.* at 47;
- (3) Considering adoption of dual baselines for early replacement measures in instances where incremental improvement in savings accuracy justify the cost to evaluate and implement such an approach. *Id.* at 48;
- (4) Continuing the current use of adjusted gross savings to estimate impacts in the near term, but consider whether methodologies that account for free-ridership, spillover, and market transformation impacts may be prudent in the long term. *Id.* at 49;
- (5) Continuing to update and improve the current reporting format, but also consider use of the NSPM's standardized program-level reporting template and making any benefit-cost model publicly available.⁶ *Id.* at 41; and
- (6) Continuing to collect information on program-specific customer participation, but also consider whether it is feasible to collect more detailed information relating to customers who are eligible to participate in a program, or participate in multiple programs within a year or across multiple years, as a means of informing decisions about customer equity. *Id.* at 65.

The B/C Working Group recommends that these alterations to current practices be reviewed in additional detail during development of future plans, and, if proposed, considered by the Commission during future iterations of the program plan filings.

III. ENERGY OPTIMIZATION STUDY

Approved by the Commission in Order No 26,207, the 2019 Energy Efficiency Plan Update Settlement Agreement contained the following parameters for the Energy Optimization Study:

In early 2019, the EM&V Working Group will solicit and hire a consultant to conduct a study on how energy optimization through fuel-switching is treated in cost-

⁶ Note that in the Settlement Agreement (p. 12) filed on December 8, 2017 and approved in Order No. 26,095, the utilities are already required to file the electronic spreadsheets with their plans.

effectiveness testing and how impacts of such optimization are counted toward energy savings targets. The study will be based upon a literature review and secondary research of existing data and other sources of information with a view towards making the results applicable to New Hampshire. The consultant will be selected and managed by the EM&V Working Group, and discussions regarding the review and its findings, as well as whether or how to incorporate those findings, will be undertaken in the B/C Working Group meetings. ... Recommendations from the B/C Working Group related to the Energy Optimization Study shall be incorporated into the same report described for the Cost Effectiveness Analysis above and shall be presented to the Commission in the same manner as the Cost-Effectiveness Analysis.

2019 Update Settlement at 12.

During early 2019, the EM&V Working Group issued a request for proposals, reviewed responses, and selected Navigant Consulting, Inc. (“Navigant”) to complete the Energy Optimization Study. The EM&V Working Group provided administrative oversight of Navigant for the duration of the study, while the B/C Working Group provided stakeholder insights and inputs, which were incorporated into the study. The B/C Working Group met eight times between February 2019 and September 2019. The working group members reviewed and commented upon numerous drafts of Navigant’s study during that time period.

To inform the development of the study, Navigant conducted stakeholder interviews in New Hampshire and neighboring jurisdictions, reviewed related regulatory documents such as orders and program plans, and reviewed other sources of literature on the topic of energy optimization. Primary deliverables of the study included:

- (1) Defining the term energy optimization;
- (2) Identifying the current treatment of energy optimization in New Hampshire;
- (3) Identifying approaches to energy optimization in other northeastern states; and
- (4) Identifying customer energy usage and bill impacts related to energy optimization through fuel switching.

These findings were combined into the final study, *Energy Optimization through Fuel Switching Study*.

1. Energy Optimization Defined

The Energy Optimization Study defines energy optimization as “a strategy to minimize energy use and maximize customer benefits... [that] considers efficiency and the mix of fuels used.” The study also defines how energy optimization relates to the concepts of fuel switching,⁷ energy efficiency, and beneficial electrification:

⁷ The New Hampshire Public Utilities Commission’s rules limit the ability of a regulated utility to recover costs associated with certain promotional activities intended to encourage or increase usage of a utility’s service. Activities related to energy efficiency or conservation improvements are generally excepted from those limitations. For electric utilities, see Puc

Energy optimization measures are a subset of fuel switching measures, but the two are not synonymous because fuel switching does not necessarily account for efficiency. Similarly, energy optimization measures are a subset of EE measures, though EE measures do not necessarily consider the fuel mix. Beneficial or strategic electrification approaches may involve energy optimization, but these terms are not synonymous either. Beneficial or strategic electrification involves powering end uses with electricity instead of fossil fuels in a way that increases EE and reduces pollution, while lowering costs to customers and society, as part of an integrated approach to decarbonization, while energy optimization focuses on any strategy that minimizes energy use and maximizes customer benefits.

Energy Optimization Study at 1.

2. Current Treatment of Energy Optimization in New Hampshire

The Energy Optimization Study provides an overview of how issues related to unregulated fuel savings have been treated within New Hampshire's ratepayer funded energy efficiency programs. It summarizes Commission precedent relating to the piloting and then full approval of fuel blind programs through which the regulated utilities claim savings and recover costs for measures that target unregulated fuel savings. The study also describes those measures currently supported by the programs that have the potential for claiming unregulated fuel savings if treated as energy optimization measures. These measures include, but are not limited to, measures for space heating, water heating, commercial food service, commercial natural gas cooling, and combined heat and power. *Id.* at 6-7.

New Hampshire's ratepayer-funded energy efficiency programs have historically assumed that any customer decision to switch fuels when purchasing or installing an energy optimization measure is not attributable to the program intervention.⁸ *Id.* at 7-9. Rather, the assumption is that program intervention drives customers to install a more efficient version of the new equipment type than they otherwise would have. Therefore, the savings claimed are limited to the difference between the energy consumption of the supported high efficiency measure and a baseline that is generally a less efficient piece of equipment utilizing the same fuel as the supported measure. Likewise, these savings are the basis for program incentive levels, which are designed only to encourage customers who already intend to purchase, for example, an electric heat pump, to purchase the more efficient electric heat pump version. This choice of baselines is consistent with historically accepted best practices in energy efficiency program evaluation, which suggest that programs should claim only the incremental savings directly attributable to a program intervention.

The study observes that a consequence of such treatment is that if customer motivations for switching fuels are not always independent of program intervention, an energy optimization measure which actually increases load on the electric distribution system may be characterized for the purposes of

310.01(h), Puc 310.02, and 310.03(a)(1-3). For natural gas utilities, see Puc 510.01(h), 510.02, 510.03(a)(1-3), 510.03(b), 510.03(c), and 510.03(d).

⁸ One notable exception to this approach was during 2013 when the programs accounted for the unregulated fuel savings of heat pumps by including positive unregulated fuel savings and negative electric savings.

determining program incentives, savings, and cost-effectiveness as a measure which decreases load on the electric distribution system. *Id.* at 30.

For example, for a customer who — due to a program incentive — chooses to install an electric powered heat pump that displaces oil used by an oil boiler, the program would result in *increased* kilowatt-hour (“kWh”) energy usage and winter kilowatt (“kW”) peak load on the circuit where that customer is located. However, for purposes of calculating efficiency program savings, the heat pump is treated as having *reduced* kWh energy usage and kW winter peak load because it is treated as saving the difference between the high efficiency heat pump supported by the program and the baseline model heat pump the program assumes the customer would have bought without the program intervention. In addition, the heat pump is treated as having resulted in no reduction in oil use, despite the program incentive having led the customer to displace or reduce their oil usage.

As described in further detail below, the accuracy of this assumption — that the customer was *not* motivated to switch fuels by the program intervention — is being revisited by neighboring jurisdictions as they begin to more accurately account for the costs and benefits associated with energy optimization through fuel switching.

3. Treatment of Energy Optimization in Other Northeast States

The Energy Optimization Study observes that based on recent regulatory and statutory guidance, and supporting program evaluations, the generally accepted inputs for energy optimization measures in the Northeast are changing. While the efficiency program administrators throughout New England have historically claimed savings consistent with New Hampshire’s current approach, almost all of those states have now moved to a model where, in at least some residential retrofit applications, the calculation of program savings does not assume the customer would have switched fuels regardless of program support.

Maine, Massachusetts, Rhode Island, and Vermont all recently began counting unregulated fuel savings and electric load increases for certain residential electric measures involving fuel switching – primarily heat pumps and ductless mini-splits.⁹ *Id.* at 20-21. New York has plans for a similar accounting in the near future, and Connecticut is in the midst of a 100-unit heat pump pilot where it is evaluating a similar approach. In these cases, for the purposes of cost-effectiveness screening, the efficiency program administrators claim the net MMBtu savings value associated with reduced unregulated fuel consumption and increased electric usage. *Id.* at Appendix E. Notably, while Massachusetts accounts for the increased electric load in its benefit cost calculations, it does not reduce overall electric program savings claim by that load increase for purposes of the savings goal calculation. *Id.* at 23.

The jurisdictions reviewed in the Energy Optimization Study have embraced differing approaches to energy optimization based on their respective policy goals. Policy goals identified by the study included strategic electrification, minimizing greenhouse gas emissions, reducing fossil fuel usage, improving program cost-effectiveness, pursuing holistic accounting of benefits and costs, and

⁹ The Energy Optimization Study observes that no Northeast states allow program administrators to claim savings for conversion from an unregulated fuel to natural gas, largely due to concerns over free-ridership. Energy Optimization Study at 19.

improving load factor. *Id.* at 28. The Energy Optimization Study does not recommend a specific policy for adoption in New Hampshire, but identified nine program changes related to energy optimization that Northeastern states have pursued, based on their policy goals. *Id.* at 29. These changes include:

- (1) Counting unregulated fuel savings and electric load increase for fuel-to-electric measures;
- (2) Counting greenhouse gas emission reductions as non-energy impacts in B/C analysis;
- (3) Counting Site & Source Savings in B/C calculations
- (4) Incentivizing oil-to-natural gas measures
- (5) Offering tailored air-source heat pump measure bundles
- (6) Incentivizing electric vehicles within energy efficiency programs
- (7) Incentivizing combined heat and power within energy efficiency programs
- (8) Third party working in tandem with utilities
- (9) Offering energy optimization-specific workforce training programs

While discussing how the above-described program changes relating to energy optimization might impact program design and delivery, the B/C Working Group repeatedly returned to the topic of goal-setting and the utility performance incentive. As observed in the Energy Optimization Study and the related report of the Performance Incentive Working Group,¹⁰ some stakeholders interpret the current EERS goals and related aspects of the performance incentive as an impediment to fully accounting for the true range of costs and benefits associated with energy optimization measures.

The B/C Working Group recommends that the Commission provide guidance as to whether the planning processes envisioned in Order No. 26,207 should — based on the information and approaches summarized in the Energy Optimization Study — include consideration of a net MMBtu savings goal as a component of the next phase of the EERS and whether any associated revisions to the performance incentive may be warranted. In addition, the B/C Working Group recommends that the Commission provide guidance on whether this planning process should include development of programs or pilot programs, similar to the above-described Connecticut pilot, to gain direct experience with deploying energy optimization measures in New Hampshire, evaluating the validity of modeled savings assumptions, and enhancing contractor or customer training.

4. Customer Energy Usage and Bill Impacts of Energy Optimization through Fuel Switching

A primary deliverable of the Energy Optimization Study was to characterize the customer energy usage and bill impacts associated with energy optimization.

To provide a better sense of the customer energy and cost savings that would be recognized if New Hampshire were to embrace a more holistic accounting of certain energy optimization measures, the Energy Optimization Study adapts the residential energy optimization model developed in

¹⁰ New Hampshire Energy Efficiency Calculation of Performance Incentive Beginning in 2020. Report of the NH Performance Incentive Working Group. Docket No. DE 17-136. July 31, 2019. Page 13-14. Available at: https://www.puc.nh.gov/EESE%20Board/EERS_WG/20190913-EERS-WG-PI-FINAL-REPORT.pdf

Massachusetts to include New Hampshire-specific inputs such as annual weather data, fuel cost data, saturation baseline of A/C technologies, and the electric generation mix. *Id.* at 30-32, and Appendix D. This provides an apples-to-apples comparison of the savings captured under the current accounting of unregulated fuel savings compared to an accounting where the net of unregulated fuel savings and electric load increases are recognized for energy optimization measures such as air source heat pumps or ductless mini-splits. The Study found that the claimed net MMBtu and cost savings potential would be significantly higher than the previous accounting of incremental benefits would have indicated. *Id.* at 31.

The Energy Optimization Study's review of studies from neighboring jurisdictions identified one key reason to embrace energy optimization: it has the potential to reduce customers' total energy bills and, if peak load impacts are limited, improve overall electric system load factor. An improved load factor on the distribution and transmission system has the potential, all else being equal, to spread the cost of the system peak (kW) over a greater volume of energy usage (kWhs), placing an overall downward pressure on rates. *Id.* at 25-27. Some states have identified this improved load factor as an "inverse cost shift" because heat pump customers may actually be paying more than the marginal cost of their service because generally the system is less load-constrained in the winter. *Id.* at 25.

The Energy Optimization study also discusses treatment of lost revenues and decoupling relative to energy optimization policies, noting that decoupling should be a prerequisite for electrification policies if such policies are intended to benefit ratepayers rather than utility shareholders because "the revenue and bill impacts of the inverse cost shift will be more certain to occur in a decoupled state, where any revenues above and beyond the cost of service flow back to ratepayers on an annual basis in between rate cases." *Id.* at 27.

IV. B/C WORKING GROUP RECOMMENDATIONS

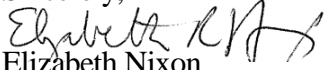
Based on the recommendations contained in the Cost-Effectiveness Test Review and Energy Optimization Study and related discussions that took place at the B/C Working Group over the past eight months, the B/C Working Group recommends that the Commission:

- (1) Adopt the Granite State Test as the primary test for energy efficiency cost-effectiveness screening;
- (2) Adopt the Utility Cost Test and Secondary Granite State Cost Test as the secondary tests for energy efficiency cost-effectiveness screening, requiring the utilities to perform and file both alongside the primary test;
- (3) Consider, if proposed following additional review during development of future plans, other alterations to cost-effectiveness screening practices recommended by the Cost-Effectiveness Test Review as detailed in Section II.4 above; and
- (4) Provide guidance as to whether stakeholders should continue, through the planning process identified in Order No. 26,207, to investigate energy optimization and related load factor improvement opportunities, including through:
 - a) Establishment of any relevant programs or pilot programs (e.g., for air source heat pumps) to evaluate the reasonableness of accounting for unregulated fuel savings and


increases in regulated fuel consumption resulting from energy optimization measures;
and/or

b) Consideration of a net MMBtu savings goal component of the electric programs
and any related alterations to the performance incentive mechanism during the
program planning process for the next triennial plan.

Sincerely,


Elizabeth Nixon
Chair, B/C Working Group

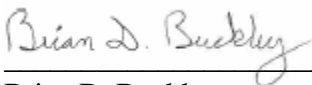
On behalf of the B/C Working Group


Brian D. Buckley, #269563
Attorney for Staff

On behalf of the B/C Working Group

cc: Service List

I hereby certify that a copy of this letter and the enclosed Reports will be served electronically on the
parties on the service list at the same time it is filed with the Commission.



Brian D. Buckley

Appendix 1- Cost-Effectiveness Screening Summary

The chart below summarizes the impacts included in the current New Hampshire TRC Test and the proposed Granite State Test, the Utility Cost Test, and Secondary Granite State Test.

Impact	Current NH TRC Test	Granite State Test	Secondary Test: Utility Cost Test	Secondary Test: Secondary Granite State Test
<i>Utility System Costs</i>				
Measure costs (utility portion)	✓	✓	✓	✓
Other financial or technical support costs	✓	✓	✓	✓
Other program and administrative costs	✓	✓	✓	✓
EM&V costs	✓	✓	✓	✓
Performance incentives	✓	✓	✓	✓
<i>Utility System Benefits</i>				
Avoided energy costs	✓	✓	✓	✓
Avoided generating capacity costs	✓	✓	✓	✓
Avoided reserves	✓	✓	✓	✓
Avoided transmission costs	✓	✓	✓	✓
Avoided distribution costs	✓	✓	✓	✓
Avoided T&D line losses	✓	✓	✓	✓
Avoided ancillary services		✓	✓	✓
Intrastate price suppression effects (DRIPE)	✓	✓	✓	✓
Interstate price suppression effects (DRIPE)				
Avoided compliance with RPS requirements	✓	✓	✓	✓
Avoided environmental compliance costs (embedded)	✓	✓	✓	✓
Avoided credit and collection costs		✓	✓	✓
Reduced risk	✓	✓	✓	✓
Increased reliability		✓	✓	✓
Market transformation		✓	✓	✓
<i>Non-Utility System Impacts</i>				
Other fuel	✓	✓		✓
Water resource	✓	✓		✓
Income eligible (participant)	✓	✓		✓
Income eligible (societal)				✓
Participant costs	✓			✓
Participant non-energy benefits	✓			✓
Environmental, NH fossil fuel proxy	✓	✓		✓
Environmental, other externalities				✓
Public health				
Energy security				

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