NEW HAMPSHIRE ENERGY EFFICIENCY CALCULATION OF PERFORMANCE INCENTIVE BEGINNING IN 2020

Report Issued by the NH Performance Incentive Working Group

Docket No. DE 17-136
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I. Introduction

A. Scope and Members of the PI Working Group

The scope of the Performance Incentive Working Group's ("PI Working Group" or "Working Group") activities is defined by New Hampshire Public Utilities Commission ("Commission" or "PUC") Order Nos. 26,095 and 26,207 in Docket DE 17-136, which approved the Settlement Agreements filed on December 8, 2017 and December 13, 2018, respectively. The Settlement Agreements direct the PI Working Group to undertake a review of potential PI methodologies that could further promote the achievement of New Hampshire's EERS goals, with the objective of implementing any changes to the performance incentive calculation beginning in the 2020 program year. The PI Working Group was tasked with considering metrics designed to encourage income eligible participation in energy efficiency programs and to encourage peak load reductions. Per the Settlement Agreement, the intent of the PI Working Group is to make its recommendations in time to incorporate proposed methodologies into the 2020 New Hampshire Statewide Energy Efficiency Plan Update. This Report represents the PI Working Group's fulfilment of that assignment.

During its extensive 16-month review of the issues surrounding the current, and alternative, PI methodologies, the Working Group reviewed and produced many documents, some of which are posted to a page on the Commission website http://www.puc.state.nh.us/EESE%20Board/EERS WorkingGroups.html. These documents are posted for informational purposes only and the PI Working Group members do not necessarily adopt or endorse the information and findings contained in these documents.

This Report is largely a consensus document produced by the Working Group members. However, while this Report was guided by and results from the Settlement Agreements filed December 8, 2017 and December 13, 2018, it is not intended as, and should not be construed as a Settlement Agreement. As such, Working Group members reserve the opportunity to take consistent or contrary positions when PI is at issue in future proceedings before the Commission. The Report is a public document and may be used in future Commission proceedings. The Working Group meetings and related discussions that lead to the Report were not conducted as privileged or confidential sessions.

This Working Group Report, along with any member/stakeholder comments, has been posted to the Commission website under the PI Working Group section.

The members of the PI Working Group devoted many hours to meetings, research, information responses and preparation of slide presentations and this Report is the product of a collaborative effort enriched by the creative ideas each member brought to the table. A full list of members is included in Appendix B.

B. Executive Summary

The PI Working Group met in order to review the current, and alternative, PI calculation methodologies and to recommend an appropriate PI framework to be implemented for the 2020 period. The Working Group considered including potential metrics to encourage electric system peak load reductions and to increase participation by low income groups and households in energy efficiency programs. The discussions of the PI Working Group occurred over a sixteen-month period between January 2018 and July 2019, and the salient documents from these discussions are posted to the Commission website.

A significant portion of the Working Group's time was spent studying and revising minimum PI thresholds, calculation methodologies, and developing a more comprehensive and transparent framework for calculating PI that constitutes a good replacement for the existing methodology. The new proposed framework is based on the following:

- Categorizing and weighting five separate performance indicators (components), at the portfolio level, each involving minimum savings thresholds (as well as other minimum thresholds summarized below) that must be met in order for any PI to be earned for that component.

Performance Incentive Components (Electric)

PI #	Component Title	Description	Incentive Weight	Minimum Threshold	Maximum PI Level	Verification
1	Lifetime kWh Savings	Actual/Planned Lifetime kWh Savings	35%	75%	125%	Annual PI Filing w/PUC
2	Annual kWh Savings	Actual/Planned Annual kWh Savings	10%	75%	125%	Annual PI Filing w/PUC
3	Summer Peak Demand Savings	Actual/Planned ISO-NE System-wide Summer Peak Passive kW Savings	12%	65%	125%	Annual PI Filing w/PUC
4	Winter Peak Demand Savings	Actual/Planned ISO-NE System-wide Winter Peak Passive kW Savings	8%	65%	125%	Annual PI Filing w/PUC
5	Value	Actual/Planned Net Benefits[1]	35%	75%	125%	Annual PI Filing w/PUC
Total			100%			

[1] Total resource benefits (See Appendix D) less utility costs (not including PI).

Performance Incentive Components (Gas)

PI #	Component Title	Description	Incentive Weight	Minimum Threshold	Maximum PI Level	Verification
1	Lifetime MMBtu Savings	Actual/Planned Lifetime MMBtu Savings	45%	75%	125%	Annual PI Filing w/PUC
2	Annual MMBtu Savings	Actual/Planned Annual MMBtu Savings	20%	75%	125%	Annual PI Filing w/PUC
3	Value	Actual/Planned Net Benefits[2]	35%	75%	125%	Annual PI Filing w/PUC
Total			100%			

- The source data for the PI value of each performance indicator is taken from the Benefit-Cost model spreadsheets utilized by the utilities in the preparation of their annual PI filings showing calculations of program cost effectiveness and present value of benefits. Note: The reporting requirement and the compilation of this data on an annual basis will not change – only the calculation of PI has changed.

C. Minimum Thresholds and Requirements

- Most of the existing minimum PI requirements/parameters remain unchanged as follows:
  - ✓ Maintain existing target PI equal to 5.5 percent of each company's program spending with a maximum PI equal to 6.875 percent of actual spending.
  - ✓ Maintain actual spending as the basis of the calculation of PI, rather than the budget.
  - ✓ Maintain a minimum portfolio-wide threshold benefit-cost ratio ("BCR") of 1.0 before PI can be earned, but – remove the BCR from calculation of PI.[3]
  - ✓ Maintain the cap on incentives that can be earned equal to 125 percent of design PI, equivalent to 6.875 percent of actual spending.
  - ✓ Maintain existing use of "adjusted gross savings" for annual and lifetime savings calculations, exclusive of market effects (free ridership and spillover) and inclusive of applicable realization rates achieved by the programs as indicated by third party evaluations and adopted by the Evaluation Measurement and Verification ("EM&V") Working Group.
  - ✓ Maintain the minimum portfolio-wide threshold of 55% of lifetime energy savings from electric measures in the electric programs. As is the case currently, if this threshold is not

[2] Id.

[3] The minimum threshold for cost-effectiveness in this PI framework will be based on the current Total Resource Cost test. The Benefit-Cost and EM&V Working Group are currently evaluating the B/C test used by the New Hampshire energy efficiency programs. A final report is expected to be completed by September of 2019. The PI Working Group members did not address in depth as to whether future PI calculations will reflect any changes to the B/C screening test from that review.

met, then a lower coefficient (4.4 percent rather than 5.5 percent) is to be used in the calculation of PI, along with a corresponding cap of 5.5 percent.

- The following PI requirements/parameters were revised or discontinued:
  - ✓ The existing practice of calculating PI based on achievements at the sector level (i.e. Residential/Income Eligible and Commercial/Industrial sectors) will be replaced by a calculation based on achievement at the portfolio level as a whole (i.e. combination of both sectors) .
  - ✓ The existing minimum threshold of 65 percent of planned lifetime savings, which must be met before any PI is earned for that component, will be increased to 75 percent for each of the lifetime and annual savings components as well as the net benefits component. For the new PI components associated with passive electric summer and winter peak demand, the minimum threshold will be 65 percent (see table above).

The Working Group supports the revised PI framework for the following reasons:

- It uses metrics that are transparent – e.g., performance is incentivized within separate key metric areas that are clear and well-defined, and aligned with EERS goals.
- It is administratively expedient – e.g., provides an easy to use one-page template based on the existing data compilation methods used by the utilities.
- It increases focus on targets and promotes various policy objectives by applying incentives to each performance component separately - e.g., peak demand.
- It establishes minimum thresholds for each performance indicator to encourage performance on each of the targets.
- It preserves effective elements of the existing minimum PI requirements as outlined above - e.g., baseline target and cap, BCR, actual savings, etc.
- It uses a portfolio approach, which provides the utilities with greater flexibility in terms of program implementation and innovation, and increasing low income participation through fuel-neutral measures.

II. Review of Existing Performance Incentive Framework

The current energy efficiency program administration performance incentive framework was initially proposed by the Energy Efficiency Working Group in its final report to the Commission on July 6, 1999,[4] and approved by the Commission in November 2000.[5] Aside from Commission modifications to the framework in September 2013,[6] and again when it approved the Energy Efficiency Resource Standard in 2016,[7] the framework developed nearly two decades ago remains the foundation of New Hampshire's energy efficiency program administration performance incentive framework today.

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[4] Docket No. DE 96-150. Energy Efficiency Working Group Final Report. (July 1999) Page 21. Available at: https://www.puc.nh.gov/Electric/96-150%20%20NH%20Energy%20Efficiency%20Working%20Group%20Final%20Report%20(1999).pdf

[5] Order No. 23,574 at 19. See also, Order No. 23,982 at 13.

[6] Order No. 25,569 at 7. The Commission added the tiered incentive described *infra* at note 7 as a means of balancing the Commission's recently approved fuel neutral programs.

[7] Order No. 25,932 at 60. The modification was to the size the of the performance incentive

A. Current Threshold Requirements

To be eligible for a performance incentive for a specific sector (Residential/income-eligible programs, and Commercial/Industrial, inclusive of the Municipal program for electric programs), the gas or electric utility currently must achieve the following:

1. A BCR of greater than 1.0 in that sector for the electric utilities and gas utilities or not receive PI for the BCR portion.
2. Actual lifetime kWh savings at or above 65 percent of the planned savings in that sector for the electric utilities or no PI is earned for the kWh savings portion.
3. Actual lifetime MMBtu savings at or above 65 percent of the planned savings in that sector for the gas utilities or no PI is earned for the MMBtu savings portion.

B. Electric Programs

Once the above-mentioned threshold requirements have been satisfied, the current performance incentive for the electric energy efficiency programs is calculated on a sector specific basis, and based on the following factors:

1. If actual electric lifetime savings (for both electric and non-electric measures) are greater than or equal to 55 percent of total lifetime energy savings, the multiplier for the savings component is 2.75 percent of sector spending; if it is less than 55 percent then the multiplier is 2.2 percent of sector spending[8]
2. The actual dollars spent (by the utility and by customers) to carry out programs;
3. The actual BCR compared to the planned BCR;
4. The actual lifetime electric energy (kWh) savings compared to the planned lifetime electric energy (kWh) savings;
5. The BCR component and the kWh savings ratio component are each capped at 3.4375 percent for each sector and each sector PI is capped at 6.875 percent; and
6. Actual spending amounts for the PI calculation may exceed the total budget by up to 5 percent.

The current performance incentive formula ties these factors together is as follows for each sector:

(1) (2) (3) (4)

PI= [(2.75% or 2.2%) x Actual Spend] x [(BCR Actual/BCR Planned) + (lifetime kWh Actual/lifetime kWh Planned)]

C. Natural Gas Programs

The performance incentive framework for the natural gas programs is similar to the electric programs, except that it uses MMBtu savings from natural gas instead of lifetime kWh and the incentive percentage and total PI cap is not dependent on achieving a minimum portion of total energy savings from gas measures.

[8] If at least 55 percent of the overall energy savings are in the form of electric energy, then the utility earns PI using the higher 5.5 percent (i.e. 2.75 percent for the savings component and 2.75 percent for the benefit-cost component). If less than 55percent of the overall savings are from electric energy, then the utility earns PI using the lower 4.4 percent multiplier (i.e. 2.2 percent for the savings component and 2.2 percent for the benefit-cost component). The 55% electric savings threshold also determines the overall performance incentive cap; if the 55% threshold is reached, the maximum PI is 6.875% of actual expenditures, otherwise it is 5.5% of actual expenditures. This is meant to focus the majority of the SBC-funded budget towards electric savings rather than gas and other fossil fuel savings. .

The current performance incentive formula for the natural gas programs is as follows for each sector:

(1) (2) (3)
PI= [2.75% x Actual Spend] x [(BCR Actual/BCR Planned) + (lifetime MMBtu Actual / lifetime MMBtu Planned)]

III. Opportunities for Improving the Performance Incentive Model

The PI Working Group stakeholders identified several aspects of the current model which could be improved to reflect the State of New Hampshire's priorities, and account for changes that have taken place in our energy systems in the two decades since the framework was originally adopted.

The opportunities for improvement were focused on the following aspects of the existing framework: (1) a narrow focus on lifetime savings and BCR; (2) a limited emphasis on the value of electric peak demand reduction; (3) a threshold for incentive eligibility that begins at 65 percent of lifetime savings goals; (4) a threshold for incentive eligibility at the sector level rather than portfolio level; and (5) a focus on the ratio of benefits to costs rather than on net benefits.

A. Narrow Focus on Lifetime Savings and BCR

The existing performance incentive framework's narrow focus on BCR and lifetime kWh savings excludes other performance metrics or outcomes stakeholders believe the utilities should target based on the policies of the State of New Hampshire and priorities of the Commission. The American Council for an Energy Efficient Economy (ACEEE) suggests, "Multifactor performance incentives that incorporate multiple metrics can also work to meet other policy objectives… like reducing peak demand (and system costs), creating savings for low-income customers, and others."[9] Several jurisdictions, such as Vermont, utilize a framework based on several quantifiable performance indicators (QPIs).

While the working group acknowledged the importance of utility performance as it relates to lifetime energy savings, as well as maximizing the overall benefits and minimizing the overall costs of the programs, it also reached consensus that other performance indicators merited attention in the framework.[10]

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[9] American Council for an Energy Efficient Economy (ACEEE). Topic Brief: Snapshot of Energy Efficiency Performance Incentives for Electric Utilities. (December 2018) Page 3. Available at: https://aceee.org/sites/default/files/pims-121118.pdf

[10] In addition to reviewing the Vermont QPI framework, the Working Group also reviewed Massachusetts' PI framework, which focuses on the gross and net dollar benefits delivered by energy efficiency programs. After including seven program metrics in its PI formula for several years, the Massachusetts Department of Public Utilities subsequently excluded these metrics stating "performance metrics should induce Program Administrators to undertake activities they would not otherwise undertake" Massachusetts DPU Order 13-67 (December 11, 2014), page 10. Available at https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/9230369

B. Limited Emphasis on Peak Demand Reduction

The existing performance incentive framework accounts for the benefits associated with electric peak demand reduction indirectly within that framework's benefit cost component. This contrasts with several states in the region that have recently placed a greater emphasis on the value of demand reduction by including a specific incentive associated with the achievement of planned demand reduction goals.[11] The group also notes that the New Hampshire PUC asked the utilities to explore and pursue peak reduction in several recent dockets as a means to control increasing transmission costs.[12]

While the Working Group members acknowledge that the value of summer peak demand reduction is already indirectly accounted for in the current performance incentive framework's BCR component, the group reached consensus on including components for both a passive summer and passive winter peak demand reductions in the electric programs' PI framework. The group also reached consensus that future opportunities for adoption of a demand reduction metric for natural gas programs should be explored as part of the 2021 -2023 planning process.

C. Incentive Eligibility Threshold

Under the existing performance incentive framework, a utility begins earning an incentive on the savings component upon achieving 65 percent of its targeted lifetime savings goal. However, in several other New England states, including Massachusetts,[13] Connecticut,[14] and Rhode Island,[15] the threshold for earning an incentive is 75 percent of the program targets. As a result, consensus emerged among the working group members that New Hampshire should raise its incentive eligibility thresholds to align better with neighboring jurisdictions. However, the Working Group members also agreed that given the uncertainty surrounding passive summer and winter peak demand reductions and their dependence upon the programs' measure mix, a 65 percent minimum threshold would be applied to those new demand-related components.

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[11] National Grid. 2018-20 Energy Efficiency and System Reliability Procurement Plan. (August 2017). Page 63-65. Available at: http://rieermc.wpengine.com/wp-content/uploads/2017/08/2018-2020-3-year-plan-puc-8-30-17.pdf; Order Re: Compensation Set-Aside and Performance Targets for Efficiency Vermont. (November 2017) Page A-1. Available at: https://drive.google.com/file/d/1oFLJ3yOdHyCv-3UmXQsXpf1MBUnTWS9m/view?usp=sharing; Memorandum dated October 19, 2018, Program Administrator Guide to Updates to the September 14, 2019- 2021 Draft Plan. Page 7. Available at: http://ma-eeac.org/wordpress/wp-content/uploads/Memo-from-PAs-to-EEAC-10-22-18.pdf

[12] . See, e.g., Order No. 26,042 at 5 (July 24, 2017) (stating that transmission costs are tied to peak loads and requiring Unitil to consider what measures could be taken to mitigate increases in transmission costs); DE 18-089, Eversource Energy, 2018 Transmission Cost Adjustment Mechanism, Hearing Transcript of July 12, 2018, at 19-20; DE 18-051, Liberty Utilities (Granite State Electric) Corp., Annual Retail Rate Filing, Hearing Transcript of May 9, 2018, at 46-52.

[13] Massachusetts 2019-21 Energy Efficiency Plan. (October 2018) Page 160. Available at: http://ma-eeac.org/wordpress/wp-content/uploads/Exh.-1-Final-Plan-10-31-18-With-Appendices-no-bulk.pdf

[14] Connecticut 2019-21 Conservation and Load Management Plan Update. (March 2019) Page 368. Available at: https://www.energizect.com/sites/default/files/FINAL%202019%202021%20Plan%20%283-1-19%29.pdf

[15] Rhode Island 2019 Energy Efficiency Program Plan. (October 2018) Page 42. Available at: http://www.ripuc.org/eventsactions/docket/4888-NGrid-EEPP2019(10-15-18).pdf

D. Sector Level Incentive Eligibility

Under the existing performance incentive framework, each utility's targets and related performance incentives are calculated on a sector-specific basis. As a result, if a utility under-performs in one sector, it cannot make up for that underperformance by over-performing in the other sector. This sends a signal that is inconsistent with the EERS: rather than pursue a statewide efficiency target as the EERS mandates, the existing framework suggests that there are two targets, one for each sector, thus encouraging the utilities to pursue them independently.

According to the National Efficiency Screening Project's Database of State Efficiency Screening Practices, many states, including Arizona, California, District of Columbia, Illinois, Michigan, New Mexico, New York, Oklahoma, Ohio, Pennsylvania, Rhode Island, Vermont, Washington, and Wisconsin, assess the cost-effectiveness of their programs at the portfolio level.[16]

While there is some inherent logic to incenting performance on a sector specific basis, Working Group members agreed that doing so limits flexibility to implement new programs and might unnecessarily limit the savings or cost-effectiveness pursued in a sector. In such a case, the utility would be reluctant to pursue all-cost effective programs, especially those with a lower BCR, if the utility is unable to offset the savings uncertainty associated with new programs in one sector by investment in highly cost-effective programs in the other sector.

Rewarding a utility's performance at the sector level also has implications for how income eligible programs are delivered. The Commission has the authority to approve income-eligible programs such as Home Energy Assistance (HEA) program where the BCR is less than 1.0.[17] However, for the purposes of the performance incentive eligibility, HEA falls within the residential sector and represents a significant portion of the sector's overall budget goals. This limits the utility's ability to utilize the flexibility provided by the Commission regarding HEA program cost-effectiveness because the PI earned will potentially be less if the sector level BCR is less. By moving the calculation of incentives to the portfolio level, this flexibility is maintained because more programs can be used to offset a lower BCR from the HEA programs.

E. Benefit Cost Ratio Component

The existing performance incentive framework focuses half of the incentive on actual versus planned BCR. This is a primary component of the current framework. In most jurisdictions however, the BCR is treated as a threshold that must be met at either the measure, program or portfolio level before implementation of that measure, program, or portfolio is approved by a Commission, rather than a metric against which a program administrator is rewarded. While there is some inherent logic in encouraging the utilities to maximize the cost effectiveness of the programs, there was consensus among Working Group members that the energy efficiency portfolio should be focused on other metrics so that the BCR should set a floor for portfolio performance at 1.0. Stated another way, using a minimum B/C threshold of 1.0 before PI can be earned ensures that the benefits exceed the costs.

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[16] National Efficiency Screening Project. Database of State Efficiency Screening Practices. Accessed June 21, 2019. Available at: https://nationalefficiencyscreening.org/state-database-dsesp/

[17] *See* Docket No. 96-150, Order No. 23,574 dated 11/01/2000 at 4.

Neighboring jurisdictions, including Massachusetts and Vermont, have embraced this approach to set the BCR as a threshold requirement and focus on other metrics for the PI components.

IV. Revised Framework

A. Current Framework Formula

Assuming a utility meets the minimum threshold of 55 percent of electric program total energy savings (electricity, natural gas, oil, propane, kerosene and wood) coming from electricity, the performance incentive earned by each electric utility under the current framework is as follows:

$PI = [2.75\% \times ACTUAL] \times [(BCR_{ACT} / BCR_{PLN}) + (kWh_{ACT} / kWh_{PLN})]$

Where:

PI = Performance Incentive in dollars
ACTUAL = Total dollars spent less the performance incentive
BCR_{ACT} = Actual Benefit-to-Cost ratio achieved
BCR_{PLN} = Planned Benefit-to-Cost ratio
kWh_{ACT} = Actual Lifetime Kilowatt-hour savings achieved
kWh_{PLN}= Planned Lifetime Kilowatt-hour savings

If the minimum threshold of 55 percent of electric program energy savings from electricity is not achieved, then the PI formula is modified so that the 2.75 percent multiplier is replaced by a 2.2 percent multiplier. Otherwise it remains the same. For each sector, the BCR must be 1.0 or greater or no incentive is earned for the cost-effectiveness performance component for that sector. Actual lifetime savings must be at least 65 percent of the planned lifetime savings or no incentive is earned for the savings performance metric for that sector. Performance incentive is calculated separately for the two sectors Residential/Income Eligible and Commercial/Industrial. Total PI is the sum of the two.

The natural gas programs have no equivalent minimum kWh to total energy threshold requirement. Otherwise the calculation is identical except that the unit used for lifetime savings is MMBtu rather than kWh.

PI is currently capped at the component level for each of the following:

- Residential sector BCR
- Residential sector lifetime savings
- C&I sector BCR
- C&I sector lifetime savings

Taken together, the maximum performance incentive a utility can earn is the sum of 6.875 percent of the spending in each sector, with each sector calculated separately.

B. Revised Framework Formula

Under the revised framework, several additional components have been added, including two components related to summer and winter peak electric system passive demand[18] and an annual savings component and a net benefits component.

PI =
$[(1.925\% \times ACTUAL) \times (kWh_{L\text{-}ACT}/kWh_{L\text{-}PLN})]$ +
$[(0.55\% \times ACTUAL) \times (kWh_{A\text{-}ACT}/kWh_{A\text{-}PLN})]$ +
$[(0.66\% \times ACTUAL) \times (kW_{SUM\text{-}ACT}/kW_{SUM\text{-}PLN})]$ +
$[(0.44\% \times ACTUAL) \times (kW_{WIN\text{-}ACT}/kW_{WIN\text{-}PLN})]$ +
$[(1.925\% \times ACTUAL) \times (NET\text{-}BEN_{ACT}/NET\text{-}BEN_{PLN})]$

Where:

PI = Performance Incentive in dollars
ACTUAL = Total dollars spent (less PI)
$kWh_{L\text{-}ACT}$ = Actual Lifetime kWh
$kWh_{L\text{-}PLN}$ = Planned Lifetime kWh
$kWh_{A\text{-}ACT}$ = Actual Annual kWh
$kWh_{A\text{-}PLN}$ = Planned Annual kWh
$kW_{SUM\text{-}ACT}$ = Actual passive summer peak kW
$kW_{SUM\text{-}PLN}$= Planned passive summer peak kW
$kW_{WIN\text{-}ACT}$ = Actual passive winter peak kW
$kW_{WIN\text{-}PLN}$= Planned passive winter peak kW
$NET\text{-}BEN_{ACT}$= Actual net benefits (in NPV dollars) (i.e. total benefits less utility costs and NEI's)[19]
$NET\text{-}BEN_{PLN}$= Planned net benefits (in NPV dollars)

Additional requirements are as follows:

- The utility's portfolio of programs must be cost-effective before any PI can be earned, meaning the BCR must be at least 1.0 ;
- If electric program portfolio does not meet a minimum threshold of 55 percent of total energy savings from electricity, the coefficient will be reduced to 80 percent of the design value, that is, the total incentive level decreases to a maximum of 4.4 percent (e.g., for lifetime electric savings the PI would change from a target of 1.925 percent to a maximum of 1.54 percent, etc.);
- Lifetime savings must be at least 75 percent of planned lifetime saving in order for any PI to be earned on the lifetime savings component;
- Annual savings must be at least 75 percent of planned annual saving in order for any PI to be earned on the annual savings component;
- Passive summer peak kW savings must be at least 65 percent of planned passive summer peak kW in order for any PI to be earned on the summer demand component;

[18] These demand components are excluded from the calculation of performance incentive for the natural gas programs. See Section C. under "Issues for Future Consideration" below.
[19] See Appendix D.

- Passive winter peak kW savings must be at least 65 percent of planned passive winter peak kW in order for any PI to be earned on the winter demand component;
- The portfolio Net Benefits must be at least 75 percent of the planned Net Benefits in order for any PI to be earned on the Net Benefits component ;
- Earned PI on each component is capped at 125 percent of that component's coefficient, that is, the maximum total PI is 6.875 percent;
- PI will be calculated on actual portfolio spending up to 105 percent of approved portfolio budget, excluding performance incentive, without prior Commission authorization. That is, the actual spending may exceed the planned budgets, including all sources of funding and excluding the performance incentive, by up to 5 percent. A utility may request approval from the Commission to spend in excess of 105 percent of proposed budget in a given year if it can demonstrate good reasons why the cap should be exceeded. PI is then calculated against actual program spending at the portfolio level, up to 105 percent of the revised, Commission-approved budget, or as otherwise ordered.[20]

V. Income Eligible Customers

A. Review by the Working Group

The Commission specifically tasked the Working Group with investigating the participation of income eligible customers in energy efficiency programs. Throughout its discussions, the Working Group weighed whether proposed changes would result in any unintended consequences related to design or implementation of the Home Energy Assistance program (HEA), or negatively impact the interests of income eligible customers. The group carefully considered including a specific metric related to achievement of goals in those programs, including establishing minimum spending or participation requirements. Input and feedback from The Way Home, which represents the interests of low income customers, as well as by the Office of Consumer Advocate, which represents residential customers, was sought throughout the process.[21]

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[20] This represents a departure from the methodology set out in Order No. 25,189, Docket No. DE 10-188 at 9, whereby the performance incentive will be calculated using actual expenditures 'up to a maximum of 5% of the total approved by the Commission for each utility's residential and C&I sectors, <u>including performance incentive</u>…'[emphasis added]. Upon review, it was the conclusion of the Working Group that continuing with including the performance incentive as an expense in calculating the cap under the new proposed framework (now based on the portfolio approach) would introduce a circular component into the calculation that would allow the utilities to earn a performance incentive on the performance incentive. Accordingly, in keeping with the Working Group's assignment to review and propose new and alternative methodologies, it was the consensus of the group to modify the calculation by removing the cost of the performance incentive in setting the 105 percent cap.

[21] On July 24, 2018, the PI Working Group and the B/C Working Group convened a special meeting to review current low-income programs (primarily HEA) and obtain feedback from Community Action Agencies, the utilities, project managers, and low-income advocates on program effectiveness and potential improvements.

[21] On July 24, 2018, the PI Working Group and the B/C Working Group convened a special meeting to review current low-income programs (primarily HEA) and obtain feedback from Community Action Agencies, the utilities, project managers, and low-income advocates on program effectiveness and potential improvements.

B. Funding

Ultimately, the group reached consensus that the current 17 percent budget earmark for spending on low-income energy efficiency programs was sufficient and should be maintained. The Working Group also agreed that the recently instituted mandate to carry over any budgeted but unspent funds from HEA programs would ensure that sufficient funds were dedicated to these programs. Similarly, concerns that cost-effectiveness requirements (involving a BCR of 1.0 or greater) might limit participation of income eligible homes, have been addressed by a move from a sector level approach to a portfolio level approach. By moving to a portfolio level framework, in contrast to the sector level framework with its budgetary requirements, the Working Group was comfortable that the income eligible programs would be served adequately without adding a specific PI metric or component. In addition, the Working Group concluded that the net benefit component would help incent fossil fuel savings, which make up the primary benefit of weatherization activities in the income eligible programs. As a result, the Working Group members agreed that the income eligible programs would receive adequate investment and prioritization without the inclusion of a specific PI metric related to that customer segment in program year 2020. Should the PI framework be adjusted during the planning process for the next three-year plan, the topic of a specific income eligible metric may be revisited.

VI. Issues for Future Consideration

Over the course of the Working Group meetings, members reviewed many presentations from external experts as well as from the utilities and the OCA, and engaged in thoughtful discussion covering various aspects of performance incentive design. As these discussions progressed, several emerging developments in the energy efficiency field were considered but set aside due to the need for additional study and in the interest of reaching group consensus for the 2020 Program Year. This does not preclude future adjustment to the PI Framework to accommodate the evolution of program design, the adoption of new cost-effectiveness testing, the incorporation of a gas demand component, or other methods of calculating savings. Some of the ideas that may merit future investigation are discussed below.

A. Energy Optimization/Electrification

Energy Optimization (EO) is a concept that is known by different names in different jurisdictions. EO is a strategy undertaken by the utilities to provide customers with fuel-neutral education and encourage them to minimize energy usage through various energy efficiency measures. In practice, this has typically (but not exclusively) meant fuel switching from less efficient to more efficient, cleaner sources of energy. Heat pump technology and combined heat and power (CHP) are examples of common technologies considered under energy optimization. EO is also referred to in some circles as strategic electrification.

Both the existing PI Framework and the revised PI Framework focus on electricity savings (for electric programs) and natural gas savings (for natural gas programs), with some consideration given to other fuels saved. The current and revised PI frameworks do not consider overall energy savings, when switching from one fuel to another. Throughout the region, interest and investment in more holistic approaches to energy efficiency is increasingly involving technologies and appliances that shift energy use from dirtier fossil fuels to cleaner and more efficient natural gas and electric power. Massachusetts, Vermont, Connecticut, Maine, and Rhode Island have begun placing a greater emphasis on *energy* savings as opposed to strictly *electric* savings among energy efficiency program planners and implementers.

One of the stumbling blocks encountered by the Working Group in judging the merits of creating a viable PI metric in this area is that EO is an emergent concept in New Hampshire in terms of policy, program design, implementation, and evaluation. An additional impediment was the availability of state-specific data involving deployment and utilization of optimization technologies. Currently, the EM&V Working Group and the B/C Working Group are working with Navigant, a third party evaluation firm, to investigate how other jurisdictions are handling EO in their energy efficiency planning, cost-effectiveness testing, and reporting, and the policies that support implementation. [22]

Depending on the outcome of the Navigant-led study, and the EERS priorities for the 2021-2023 term, the utilities and the stakeholders may want to adjust the PI framework in the future to incent overall energy reductions, rather than just those energy reductions that result from a decrease in the use of electricity or natural gas alone. If that is the case, there will need to be further discussion about how to convert energy savings resulting from the efficiency programs to a common unit of energy, and whether to do so at the customer site or the generating source. A study to investigate these issues is currently being scoped in Massachusetts, the results of which may help to inform future New Hampshire energy efficiency program design.

B. Revised Cost Effectiveness Tests

The EM&V Working Group and the B/C Working Group are working with Synapse, a third-party firm, to review policies related to New Hampshire's cost-effectiveness test for energy efficiency programs, in accordance with the framework established in the National Standard Practice Manual ("NSPM"). Synapse will prepare a report that summarizes the key elements of the NSPM and how the B/C Working Group can apply those elements to the energy efficiency cost-effectiveness analyses in New Hampshire. Any resulting recommendations for the New Hampshire cost-effectiveness test are expected to be implemented beginning in 2021.

As described above, Total Resource Cost test is the current benefit/cost test for program screening and is expected to be the, the basis for the PI for 2020. If the screening cost-effectiveness test changes with a start date of program year 2021, then the PI framework, including the components and requirements, will need to be revisited since the benefit/cost test and the PI calculation overlap.

C. Gas Demand

As coal, oil and nuclear decline as fuels for the generation of electricity in the northeast, natural gas, along with renewables and energy efficiency, have filled in the gap. This additional demand for natural gas to meet the demand for electricity generation has strained already congested gas pipeline capacity in our region. This strain has been particularly acute during the winter months when demand for natural gas for heating homes and businesses reaches a peak. Short-term natural gas supply shortfalls have led

[22] The Commission is currently investigating grid modernization, including strategic electrification, in Docket IR 15-296.

to wholesale price instability that regional energy planners, the Independent System Operator of New England ("ISO-NE"), regulators and the natural gas distribution companies throughout the region are attempting to address. Similarly, at the distribution level, natural gas utilities (including in New Hampshire) are experiencing peak day demand growth that threatens to exceed the level of firm supply that can be accessed without major new infrastructure investments. Reducing end users' natural gas demand will free up more pipeline capacity.

Unlike electricity measures and end uses, for which hourly load-shapes have been developed by energy efficiency evaluators as well as ISO-NE, the Working Group was not aware of readily available studies or related data sources for peak gas demand. Nor did the group find evaluation studies that show the peak gas demand reduction related to specific energy efficiency measures. There is currently no mechanism to put a dollar value on the demand reduction value of natural gas conserving activities during peak periods. This relationship is further complicated by the way in which natural gas is procured for the purpose of generating electricity (short term, spot market) versus the way it is procured by end-using customers who purchase from a natural gas local distribution company to heat their homes and businesses (long-term contracts, regulated rates).

While the Working Group members were in broad agreement that natural gas efficiency programs help ameliorate the winter gas supply issues, the gas utilities said that they do not track peak demand savings in New Hampshire. Without such information, the Working Group could not establish a meaningful goal or determine whether or not the natural gas programs have achieved it. Consequently, the Working Group agreed that the natural gas utilities would stay abreast of various studies in the region that are investigating the issue of natural gas peak demand in order to consider development and inclusion of a peak demand reduction metric for the next three-year plan period.[23]

D. Income Eligible Participation

As noted above, the Working Group examined the feasibility of additional PI metrics to incentivize increased participation by low-income households in energy efficiency programs, including adoption of specific participation and savings targets. After considerable discussion and review, including outreach to other stakeholders outside the working group process, consensus was reached that maintaining adequate levels of investment and funding continues to be the most effective means of serving this community, at least through 2020. However, this is an evolving issue in many other jurisdictions, and

[23] One potential example of a peak day proxy strategy was recently identified by gas program administrators in Connecticut. As a condition of approval of the Connecticut 2019-2021 Statewide Energy Efficiency Plan, the Connecticut Department of Energy and Environmental Protection required the Connecticut Program administrators to "provide a quantification and discussion of the effects of conservation, load management, and energy efficiency investments, both electric and gas, on winter peak demand and as applicable, winter fuel reliability." In response to this condition, the program administrators provided a compliance filing describing the gas peak day savings by end use and measure-type groupings. *See* Connecticut Department of Energy and Environmental Protection. Attachment A: Schedule of Compliance Conditions of Approval. (December 2018) Available at: https://app.box.com/s/zv7bcoe283tjvppnt853ojmwfa89zahg/file/392424970636. *Also see* Connecticut Energy Efficiency Program Administrators. 2019-2021 Plan Compliance Item #7 – July 1 filing. Available at: https://app.box.com/s/u0kn24qi4f7baxypfionf5oeiam8lq2i/file/488657645351

the development and adoption of potential income eligible metrics merits further study and should be a consideration during the planning process for the next three-year plan.

Appendix

Appendix A: 2020 PI calculation templates

Proposed PI Calculation for Electric Utilities

	Portfolio Planned Versus Actual Performance - 2020										
	Portfolio	Planned	Threshold	Actual	% of Plan	Design Coefficient	Actual Coefficient	Planned PI	125% of Planned PI	Actual PI	Source
1	Lifetime kWh Savings	169,249,199	*126,936,899*			1.925%		$ 1,204,667	$ 1,505,834		Planned and Actual from Cost Eff Tab
2	Annual kWh Savings	140,178,883	*105,134,162*			0.550%		$ 344,191	$ 430,238		Planned and Actual from Cost Eff Tab
3	Summer Peak Demand kW	16,769	*10,900*			0.660%		$ 413,029	$ 516,286		Planned and Actual from Cost Eff Tab
4	Winter Peak Demand kW	19,383	*12,599*			0.440%		$ 275,352	$ 344,191		Planned and Actual from Cost Eff Tab
5	Total Resource Benefits	$ 206,636,229									Planned and Actual from Benefits Tab
6	Total Utility Costs[1]	$ 62,580,111									Planned and Actual from Cost Eff Tab
7	Net Benefits	$ 144,056,118	##########			1.925%		$ 1,204,667	$ 1,505,834		Line 5 minus line 6
8	Total					5.500%		$ 3,441,906	$ 4,302,383		

		Total Resource Cost Test		
		Planned	Actual	Source
9	Total Benefits (incl. NEIs)	$ 227,299,852		Planned and Actual from Cost Eff Tab
10	Performance Incentive	$ 3,441,906		from row 6 above
11	Participant Costs	$ 52,022,201		Planned and Actual from Cost Eff Tab
12	Total Utility Costs	$ 62,580,111		from row 4 above
13	**Portfolio TRC BCR**	**1.93**		row 9 divided by rows 10+11+12

For illustrative purposes only. All dollar values are expressed in 2020 dollars. The numbers reflect the cumulative budget, savings, benefits, and costs of all the utilities combined based on the original 2020 Plan.
Each utlity will file its own utility-specific version of the table as part of the 2020 Plan Update.

[1] Note that in order to avoid a circular reference in the calculation of performance incentive, "Total Utility Costs" does not include the value of PI.

Proposed PI Calculation for Gas Utilities

	Portfolio Planned Versus Actual Performance - 2020										
	Portfolio	**Planned**	**Threshold**	**Actual**	**% of Plan**	**Design Coefficient**	**Actual Coefficient**	**Planned PI**	**125% of Planned PI**	**Actual PI**	**Source**
1	Lifetime MMBtu Savings	2,306,693	*1,730,020*			2.475%		$ 226,656	$ 283,320		Planned and Actual from Cost Eff Tab
2	Annual MMBtu Savings	163,616	*122,712*			1.100%		$ 100,736	$ 125,920		Planned and Actual from Cost Eff Tab
3	Total Resource Benefits	$ 21,622,091									Planned and Actual from Benefits Tab
4	Total Utility Costs	$ 9,157,813									Planned and Actual from Cost Eff Tab
5	Net Benefits	$ 12,464,278	*$ 9,348,208*			1.925%		$ 176,288	$ 220,360		Line 5 minus line 6
6	**Total**					**5.500%**		**$ 503,680**	**$ 629,600**		

		Total Resource Cost Test		
		Planned	**Actual**	**Source**
7	Total Benefits (incl. NEIs	$23,784,300		Planned and Actual from Cost Eff Tab
8	Performance Incentive	$ 503,680		from row 8 above
9	Participant Costs	$ 5,999,410		Planned and Actual from Cost Eff Tab
10	Total Utility Costs	$ 9,157,813		from row 6 above
11	**Portfolio TRC BCR**	**1.52**		row 9 divided by rows 10+11+12

For illustrative purposes only. All dollar values are expressed in 2020 dollars. The numbers reflect the cumulative budget, savings, benefits, and costs of all the utilities combined based on the original 2020 Plan.
Each utlity will file its own utility-specific version of the table as part of the 2020 Plan Update.

[1] Note that in order to avoid a circular reference in the calculation of performance incentive, "Total Utility Costs" does not include the value of PI.

Appendix B: The members/participants of the PI Working Group:

- Jay Dudley, PUC
- Jim Cunningham, PUC
- Paul Dexter, PUC
- Elizabeth Nixon, PUC
- Leszek Stachow, PUC
- Brian Buckley, Office of Consumer Advocate
- Donald Kreis, Office of Consumer Advocate
- Rebecca Ohler, New Hampshire Department of Environmental Services (NH DES)
- Joe Fontaine, NH DES
- Christopher Skoglund, NH DES
- Kate Peters, Eversource
- Miles Ingram, Eversource
- Marc Lemenager, Eversource
- Christopher Plecs, Eversource
- Erica Menard, Eversource
- Tom Fuller, Eversource
- Christopher Goulding, Eversource[24]
- Matthew Fossum, Eversource
- Cindy Carroll, Unitil
- Mary Downes, Unitil
- Eric Stanley, Liberty
- Heather Tebbetts, Liberty
- Trish Walker, Liberty
- Mike Sheehan, Liberty
- Carol Woods, NH Electric Coop
- Melissa Birchard, Conservation Law Foundation
- Raymond Burke, NH Legal Assistance/The Way Home
- Ellen Hawes, Acadia Center
- Amy Boyd, Acadia Center
- Scott Albert, GDS Associates
- Madeleine Mineau, Clean Energy NH
- Brianna Brand, Clean Energy NH

[24] Christopher Goulding is now employed by Unitil.

Appendix C: Consultants who assisted and contributed to the work of the PI Working Group:

- Denise Rouleau, Northeast Energy Efficiency Partnerships (NEEP)
- Emily Levin, Vermont Energy Investment Corporation (VEIC)
- David Farnsworth and Jessica Shipley, Regulatory Assistance Project (RAP)
- Philip Mosenthal, Optimal Energy
- Martin Kushler, American Council for an Energy Efficient Economy (ACEEE)
- Lisa Skumatz, Skumatz Economic Research Associates (SERA)
- Ralph Prahl, SERA
- Robert Wirtshafter, SERA

Appendix D: Glossary of Terms

Actual: The amount of savings, spending, net benefits or BCR the programs achieved, as reported in each utility's annual report and associated Benefit Cost models.

Adjusted gross savings: The amount of savings resulting from energy efficiency measures, adjusted to reflect realization rates and other impact factors quantified in third party evaluations, exclusive of free-ridership and spillover.

Annual savings: The reduction in electricity use (kWh) or fossil fuel use (therms or MMBtus) over a one-year period resulting from energy efficiency programs.

Benefit-Cost Ratio ("BCR"): As calculated by the NH Utilities' Benefit/Cost test, currently the Total Resource Cost ("TRC") test, the BCR is the ratio of total benefits and total costs. Total benefits are the net present value of avoided energy and non-energy impacts resulting from program measures. Total costs are the net present value of utility costs, including performance incentive, plus out-of-pocket incremental costs that customers pay for energy efficiency measures, relative to a standard efficiency measure.

Demand savings: Demand savings is the reduction in electricity demand (kW) . Demand savings can result from active resources, which are activated when dispatched (i.e., demand response), or passive resources (e.g., installation of more efficient equipment) and not in response to a dispatch instruction. For purposes of the PI calculation, the peak demand savings are coincident with ISO-NE system peak demand periods.

Independent System Operator of New England ("ISO-NE") peak demand savings: The savings resulting from passive peak demand reduction occurring during the "on-peak" hours defined by ISO-NE. Specifically, summer peak demand reductions are the average reduction in demand during summer peak hours (non-holiday weekdays, 1:00 p.m. to 5:00 p.m., during June, July, and August) and winter peak demand reductions are the average reductions in demand during winter peak hours (non-holiday weekdays, 5:00 p.m. to 7:00 p.m., during December and January).

Lifetime savings: The reduction in electricity use (kWh) or fossil fuel use (therms or MMBtus) over the lifetime of installed energy efficiency measures, based on the life of a measure as determined through evaluation.

Net Benefits: Net Benefits are the Net Present Value of Total Resource Benefits less Total Utility Costs (not including Performance Incentive). Neither the value of customer costs nor non-energy impacts is considered in determining Net Benefits for purposes of calculating the performance incentive.

Planned: The amount of savings, spending, net benefits or BCR the programs are expected to achieve, based on the utilities' Three-Year Plan and typically updated each year in Annual Update filings and associated Benefit Cost models.

Portfolio: The total set of energy efficiency programs offered by a utility, including those activities that do not directly save energy (e.g., education, EM&V, marketing, lending programs, etc.) across all sectors.

Sector: A group of customers with similar characteristics, usage patterns and billing rates. Residential, and Commercial and Industrial (C&I) are the two primary sectors in the NH Saves programs.

Total Resource Benefits: Avoided costs due to program impacts on electric capacity, electric energy, Demand Reduction Induced Price Effects (DRIPE), gas benefits, other fuels, and water resources.

Utility costs: All expenditures by the program administrator to design, plan, administer, deliver, monitor, and evaluate efficiency programs, including performance incentive.