

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 20-092

Date Request Received: 09/17/2020

Date of Response: 10/01/2020

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Request from: New Hampshire Public Utilities Commission Staff

Witness: Katherine W. Peters, Mary Downes, Eric Stanley, Carol Woods

Request:

Reference Plan at Bates 43, describing the annual filing of the TRM, which includes modifications to measure level assumptions (e.g., measure life, gross savings, in-service rates, net-to-gross factors, load shape, coincidence factors, algorithms, etc.) that will be used in reporting savings and benefits.

- a. Please provide the net-to-gross conversion factor used for each of the residential and commercial lighting programs, and where those factors have been derived from.
- b. Please describe any pending Massachusetts evaluations which will consider C&I lighting market transformation, appropriate net-to-gross conversion factors, and other issues relevant to C&I lighting.
- c. Please explain whether the New Hampshire program administrators have contemplated participation in that study and why.
- d. Please provide the realization rates for each of the residential and commercial custom programs, and where those factors have been derived from.

Response:

- a. As described in the plan and the TRM, based on discussions with the EM&V Working Group the NH Utilities are applying net-to-gross (NTG) factors to midstream and upstream offerings. For other programs the NH Utilities are prioritizing designing programs and putting mechanisms in place to minimize free-riders, in line with precedent from the 1999 NH EE Working Group report, which stated that “program designs should attempt to minimize free-riders” but “the methodological challenges and associated costs of accurately assessing free-riders no longer justifies the effort required”. This approach is also in line with the 2019 NH Benefit-Cost Working Group recommendation to the Commission to continue the current use of adjusted gross savings to estimate impacts in the near term, and consider whether methodologies that account for free-ridership, spillover, and market transformation impacts may be prudent in the long term. As such, the EM&V Working Group has solicited an evaluation of C&I programs that will include an assessment of C&I measure categories for which the NTG ratio should be applied or changed.

Because New Hampshire has not conducted its own NTG studies, we are applying results from Connecticut evaluations. C&I midstream lighting NTG factors are taken from the C1644 EO Net-to-Gross Study, Final Report (https://www.energizect.com/sites/default/files/C1644%20-%20EO%20NTG%20Final%20Report_9.25.19.pdf). The NH Utilities are applying a NTG value of 73% for screw-based LEDs and 84% for linear LEDs in 2021, as recommended in that study. Residential retail lighting NTG factors are taken from the R1615 Light Emitting Diode (LED) Net-to-Gross Evaluation (https://www.energizect.com/sites/default/files/R1615_CT%20LED%20Net-To-Gross%20Evaluation%20Report_Final_8.5.17.pdf) The 2020 Connecticut NTG values—53 percent

for hard-to-reach channels (e.g., discount and dollar stores) and 33 percent for non-hard-to-reach channels—are applied to New Hampshire for 2021 to account for the smaller historical scale of New Hampshire's retail lighting program and therefore relatively less transformed market.

- b. The following Massachusetts evaluations are underway, and will examine lighting impacts, including NTG factors.
- C&I Upstream Lighting Impact Study. The primary goal of this study is to quantify electric savings and demand reduction attributable to the initiative. The project will update impact factors, including: in-service rates, delta watts, control measure savings, and HVAC interactive effects. The evaluation will also collect data for the upcoming NTG and lighting saturation studies.
 - MA20C10-E-UPLNTG: MA C&I Upstream Lighting NTG. The primary objective of this study will be to estimate retrospective NTG ratios for 2019 (and tentatively 2020) and to develop prospective NTG ratios for C&I LED technologies offered in the Massachusetts Upstream Lighting Initiative that can be used in the 2022-2024 three-year plan.
 - MA20C09-E-LMC: MA C&I 2020 Lighting Market Characterization. The primary objective of this study will be to develop 2020 retrospective adjusted measure lives (AMLs) for C&I LED equipment technologies.
 - MA20X07-B-CIOMNINTG: C&I Prescriptive/Custom NTG Omnibus. The purpose of this study is to provide downstream NTG values for a range of end uses, including lighting.

In addition, the following studies involving C&I lighting are in the planning stages.

- MA20C11-E-LCR: MA C&I Lighting Controls Market Study. The primary objective of this study will be to characterize the C&I lighting controls market in MA including product availability, adoption, controls utilization, application, barriers to adoption and utilization, and to identify areas for continued and future program interventions.
 - MA20C04-E-CUSTELEC: Custom Electric Rolling Impact Evaluation. This study will verify and re-estimate the energy and demand savings estimates for a sample of custom lighting and non-lighting PY2018 electric projects through site-specific inspection, monitoring, and analysis.
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- c. The NH Utilities have not planned to directly participate in the MA evaluations referenced above given the stage of those studies and the complexities of joining studies that are ongoing or about to begin. However, representatives from the NH Utilities anticipate participating in the MA evaluation planning meetings that will be held starting in January 2021, during which cross-state evaluation opportunities will be addressed. In addition, the NH Large C&I Impact study that was recently put out for bids includes a secondary objective to assess any C&I measure categories for which the NTG ratio should be applied or changed, based on review of evaluations from MA and other jurisdictions.
- d. The 2021-2023 Plan does not include any residential custom programs. The current commercial custom realization rates are based on a 2015 DNV-GL evaluation of the NH Large C&I programs ([https://puc.nh.gov/Electric/Monitoring and Evaluation Reports/New Hampshire Large C&I Program Impact Study Final Report.pdf](https://puc.nh.gov/Electric/Monitoring%20and%20Evaluation%20Reports/New%20Hampshire%20Large%20C&I%20Program%20Impact%20Study%20Final%20Report.pdf)<https://puc.nh.gov/Electric/Monitoring%20and%20Evaluation%20Reports/New%20Hampshire%20Large%20C&I%20Program%20Impact%20Study%20Final%20Report.pdf>) Based on post-filing discussions with the EM&V Working Group, the NH Utilities are reviewing several

recent evaluations from neighboring states with results for large C&I custom electric and gas programs. In coordination with Commission Staff's EM&V consultants and others on the EM&V Working Group, the NH Utilities are developing weighted realization rates that factor in the 2015 NH evaluation, as well as more recent results from neighboring states. The resulting realization rates will be incorporated into an updated version of the TRM to take effect in January 2021.