



January, 31, 2018

[Recipient Name]

Skumatz Economic Research Associates. (SERA)

[Company Name]

Dear Ms. Skumatz.

The comments presented here represent the three UIL companies that serve Connecticut customers, United Illuminating, Connecticut Natural Gas and Southern Connecticut Natural Gas. Hereafter Referred to as UI.

UI is pleased to provide the following comments on the draft Evaluation Report: CT HVAC and Water Heating Process and Impact Evaluation Report and CT Heat Pump Water Heater Impact Evaluation Report (R1613/R1614) dated December 22, 2107. UI hopes these comments will receive consideration in the development of the final report for this study.

In addition to the comments provided here, UI has reviewed the detailed comments in the review draft report submitted by Eversource on January 18, 2018 and found that they closely reflect our comments and concerns with the draft report.

UI provides the following comments on the report's recommendations;

Improve Program Tracking - We reiterate that this is an upstream program where our financial interaction is with distributors. Inherent in such a program is limited information on installation contractors and end-use residential customers.

Improve Communication about Rebate Processing - In the transition from a rebate program to an upstream program, UI has implemented improvements in the payment processing to distributors.

Expand Contractor Training - UI will continue to provide training sessions for contractors and distributors as we have in the past. We find it odd that there is a recommendation to expand contractor training, yet the report had no data on what training had been provided.

Encourage Distributors to Stock Replacement Parts - Through its outreach and training to distributors UI will encourage distributors to supply replacement parts related to the high efficiency equipment incented through the program. This should lead to greater contractor satisfaction and increased sales for the distributors.

UI General Comments of the draft report.

UI would like the evaluators to remember that this is an upstream program designed to provide incentives to the market to reduce costs for contractors installing high efficiency equipment in residential dwellings. Unlike previous rebate programs for HVAC equipment this program does not directly engage with the residential customers. As such the

identifying of specific customer information, beyond the name and address, is beyond the scope of an upstream program.

UI recommends that the Executive Summary of the report include the period of time that the evaluation covers. Along with clear recognition that during this period of time the HVAC and Heat Pump Water Heating programs were in transition from a rebate program, with somewhat limited impact on the market, into a very successful upstream program.

UI requests that both the executive summary and the body of the report include the confidence and precision levels for the electric demand savings as required for the ISO-NE Forward Capacity Market. This was clearly spelled out in the SOS (Statement of Services) for this study dated February 26, 2016.

The study assumes that the ISO-Demand savings are based on the ISO-NE On-Peak definition, while the CT utilities used the ISO-NE Season Peak Definition. UI requests that the demand savings values presented in the study is based on the ISO-NE Seasonal Peak definition.

Most importantly, UI has serious concerns with the Net to Gross findings included in the report. Given the relatively low penetration rate of qualifying high efficiency boilers, furnaces (including ECM fans), boiler circulating pumps and Heat Pump Water heaters prior to the initiation of the upstream rebates, we find the NTG values to be very suspect.

UI Specific Comments

Executive Summary - In Table ES-4 there is a no definition or reference to what the "Evaluate Net Savings" means or how it was derived.

Program Description (page 2-1) - UI believes that the contents of footnote 5 should be moved into the main body of the text to provide clarity that the study includes the first full year of the upstream program along with recognition that many of the data issues mentioned are related to the transition period.

Table 2.2 list annual "Upstream HVAC" program budgets for 2016-18. These values are in fact total electric HVAC budgets values and include other HVAC program measures that are not part of the upstream program, including Central Air Conditioners and Heat Pumps. A separate table listing the gas HVAC budgets would likely illuminate the strong savings to budget ratio for the gas upstream HVAC Program.

There are several statements in section 2.2 that indicate the much higher percentage of rebates from Eversource compared to UI. We are not sure what value this provides. These results are as expected on the electric side where Eversource serves approximately 80% of the CT customers that are not served by municipal utilities. UI suggest this reference be remove or modified.

In Section3 on "Program Evaluability" a number of data issues are identified which "made it difficult to connect all of the equipment installation data to billing records". While UI understands the difficulty in evaluating the entire population of installations we would like to note that we did provide over 1,000 gas and 1,000 electric billing histories. While this may not be a complete set of all program participants, we believe this volume should provide a statistically valid sample for billing analysis.



We would also like it noted that UI proved electrical interval data for over 740 accounts where ECM furnace fans had been installed.

Table 4.6 indicates that the efficiency of installed equipment was missing for 65% of UI data set. However on Nov 8, 2016 UI proved a data set for over 10,000 boilers and furnaces. Of this total only 2 units did not have the AFUEs.

For, Tables ES-7 and 8-4 “Recommended Changes to PSD for Heat pump Water Heaters”, UI recommends that a blended result be presented that includes combination of electric, propane and oil savings. The HPWH program is a retail program with limited ability to collect existing hot water heater fuel data. UI suggests moving the weighted values found in Table 4-26 to the Executive Summary for use for the vast majority of the units, where the existing DHW fuel is unknown.

Net to Gross Methods and Results

UI finds the results of this NTG analysis methodology results difficult to understand. How were the self-reported and Barriers Approach result combined into the final NTG results?

In 2013 UI obtained information on the population of gas boilers and furnaces sold in CT by efficiency levels. Only 17% of boiler sales in CT in 2013 met the program requirements of 90% minimum efficiency. For gas fired furnace while 51% of the furnaces sold in 2013 meet the 90% efficiency requirement only 25% meet the other program requirement of an ECM furnace fan. Given these 2013 values for program qualification UI finds it difficult to understand the studies NTG findings of 30% for boilers and 45% for furnaces.

UI concurs with many of the NTG observations of Eversource, in particular;

- Distributors; where 97% (77% plus 20%) said the availability of rebates was either important or very important.
- Contractors; were only 2% of contractors felt that the availability of rebates had no impact on the likelihood to recommend high efficiency equipment.
- Customers: 76% of who reported that paying a premium was a major barrier to purchasing high efficiency equipment.

Given these observations we had anticipated that the Net to Gross Values would be higher than those reports in the study.

NTG approaches;

Self-Report Approach;

For the customer, distributor and contractor surveys, UI would like to understand whether the surveys included entities that both, did and did not participate in the

upstream programs. If the survey was a mix of both participating and non-participating respondents, what is the split between the two groups? UI believes that participants may bias their responses to inadvertently support a program from which they have benefited; due to higher sales and higher margins from more expensive high efficiency equipment. In addition, we have found that the perspectives of distributors and contractors are driven by the brand of equipment they sell and the efficiency levels provided by that manufacturer. The result is significant variations in the quantities of efficient products by distributor and installer.

Do the Self Report surveys include population sizes that make the analysis valid for the statewide program? Were any non-participating contractors or distributors surveyed?

For example the self-report of distributors only includes 9 boiler and 9 furnace distributors, while UI own data shows that 35 distributors sold 20 or more qualifying furnaces and boilers.

For Contractors, UI data shows that 95 contractors installed 20 or more boilers or furnaces. The survey data in Table 5-4 shows that only 8 furnace and 5 boilers contractors were include in the survey.

In Figure 5-3 (Self-report Incentive Summary) one of the decision questions is “would you have purchased the same equipment if the cost were \$400 more”? UI notes that the incentives for furnaces and boilers are both higher than \$400. For what measures were the responses to the question used? Since none of the upstream incentive were at the \$400 level UI is very concerned how this question was used or interpreted.

Looking at Table 5-10 please explain if and how the Barrier Results were incorporated into the Recommended NTGRs? Also in this table should the “Self Report Column” be labeled “Free Ridership” or “Self-Reported Free Ridership” to distinguish it from the Spillover results?

UI appreciates the opportunity to provide comment on this draft study. We look forward to further explanations of the development of the Net to Gross Ratios form this study.

Sincerely

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