



July 13, 2021

Lisa A. Skumatz, Ph.D.
Skumatz Economic Research Associates (SERA)
762 Eldorado Drive
Superior, CO 80027

RE: CT 1931-1 Industry Standard Practice: Boilers and Furnaces

Dear Dr. Skumatz,

Eversource Energy (“Eversource”) is pleased to submit these written comments regarding the Review Draft presentation: *CT 1931-1 Industry Standard Practice: Boilers and Furnaces* (“Draft Presentation”), submitted June 28, 2021 by DNV (“Evaluator”). Eversource received the Review Draft Presentation on June 28, 2021 with a request to provide comments by July 12, 2021. Per the Energy Efficiency Board Evaluation Road Map Process, these comments are for consideration for inclusion in the Final Memo.

The Draft Presentation summarizes the recommended values for Industry Standard Practice (ISP) for commercial boilers and furnaces, to be used in the Connecticut Program Savings Document (PSD). The main objective of this study was to determine an ISP recommendation for commercial boilers and furnaces through secondary research, PA interviews, and expert interviews.

General Comments on Draft Report Findings

Eversource appreciates the evaluator's efforts to conduct comprehensive interviews with market actors and PA staff. We value the evaluator's synthesis and analysis of secondary research, PA interviews, and expert interviews to determine an appropriate ISP baseline, which provide the Companies with results that reflect up-to-date program assumptions and can be appropriately applied to the next iteration of the PSD. Eversource anticipates incorporating the new information provided in this report to adjust program review processes, update measure-level calculations, and implement other program improvements as suggested.

Comments on Methodology

Eversource generally agrees with the methodology outlined in the Draft Presentation but is interested to know how the 15 market actors were selected, and how it was determined that the interviews conducted are fully representative of the market. How many of the interviewees (and the 400 furnace projects and 1,110 boiler projects over the past 2 years that they represent) are program participants versus nonparticipants? What percent of the market do the interviewees represent, and how do the evaluators know that they accurately represent the entire state? Eversource would like to know what type of designers were interviewed (MEP, architect, design build, etc). As a final point of clarity regarding the industry experts, Eversource would like clarification on what the furnace and boiler incentive figures on slide 7 of the Draft Presentation (11% for furnaces and 77% for boilers) represent.

Eversource is also interested to know how many PA interviews were conducted, and how interviewees were selected.

Finally, Eversource would like to confirm 1) that program participants were excluded from the calculation of the ISP baselines, and 2) whether the ISP baselines include program-qualifying efficiency levels and/or program-qualifying equipment.

Comments on Recommendations

Commented [BK1]: A total of 10 market actors were selected

Commented [BK2]: I will include more info on this in the memo.

Commented [BK3R2]: Additional information was included. Please see memo.

Commented [BK4]: All interviewees participated in the programs to some extent. The number of projects that were incentivized is summarized in the presentation and the memo.

Commented [BK5]: We are not sure. I could do a bit more research to figure this out.

Commented [BK6R5]: Used CBECs to address this in the report

Commented [BK7]: We asked a question about whether the interviewee found any variation between different parts of CT, and only minor differences were noted

Commented [BK8]: Percent of projects that the interviewee worked on that received incentives

Commented [BK9]: Two, roundtable discussions including 11 total PAs

Commented [BK10]: We asked PA contact people for PAs who were involved in the implementation of furnace and boiler programs

Commented [BK11]: To the extent possible, yes, we instructed this several times throughout the interview. though given the very high (77%) of boiler projects receiving incentives, the boiler design answers are likely influenced by the program.

Commented [BK12R11]: May have been impossible to find any trade allies with no participation in the program given the high percentage of participation

Commented [BK13R11]: We addressed this directly in the memo.

Commented [BK14]: The EA Team wanted to acknowledge that this is similar to what was discussed in MA, so we will need to handle this question clearly and firmly.

Commented [BK15]: These are included in the report.

Commented [BK16]: Based on *current* program standards, yes. The lower tier prescriptive minimum qualifying efficiencies for boilers are less than the recommended ISP. For furnaces, no.

Eversource has some technical comments and questions on the Draft Presentation. Across both the furnace and boiler recommended ISP, Eversource believes the exceptions listed will be complicated to implement. Asking a customer about size or venting constraints will be subjective and either be unreliable, increase the review time or reduce participation in the program.

Commercial Furnace ISP Major Findings. Eversource appreciates the acknowledgement that there is a significant market share of condensing equipment, but still a high degree of non-condensing equipment as well. However, in Eversource's experience, it will be difficult to obtain information on the type of existing stack and whether there are physical limitations to installing a condensing venting system and believes that the information is likely to be unreliable.

Commercial Boiler ISP Major Findings. Similar to the feedback provided on the furnace ISP, Eversource notes that it will be difficult to obtain information on the type of existing stack and whether there are physical limitations to installing a condensing venting system and believes that the information is likely to be unreliable.

Further, Eversource would like to understand why the small boilers baseline is not aligned with Residential boilers, as is the case with the furnace recommendations.

Eversource would like to know how the supply and return water setpoints ISP Recommendation is intended to be used. Currently, the PSD savings algorithm for commercial boilers does not utilize a delta T assumption between supply and return.

Eversource would like clarity on why there is an option for "unknown" stack condition for furnaces (slide 8), but not for boilers, given the boiler parameter "existing conditions that change baseline" corresponds to an ISP recommendation that is also dependent on the presence of an existing condensing stack.

Eversource also requests clarity on what "Evidence of a high efficient market share" (slide 11) means. Does this refer to a high percentage of the market share, or just note that there are high efficient products in the market? The parameter for this ISP recommendation is "equipment qualifies for incentive, but does not receive." Eversource would like more information on what exactly this parameter refers to, and how it is related to "evidence of a high efficient market share." Qualifying equipment not receiving an incentive could be

Commented [BK17]: For boilers, we're recommending a custom approach with a unique NC/ROF baseline for projects with these constraints. Rather than asking all customers about the conditions, the cast iron sectional boiler baseline option should rightly be a separate custom situation with higher incentive levels (due to the increased associated savings) and therefore a higher standard of evidence as is typical for custom projects.

For furnaces, a simple check box of yes/no/[new construction] to the existing condensing vent conditions should suffice for prescriptive projects.

Commented [BK18R17]: Note that it's not expected to be a large % of projects

Commented [BK19]: A check box on the prescriptive application seems straightforward. An impact evaluation would reveal how reliable this information is.

Commented [BK20R19]: Are photos required for submission with applications? What other QA/QC steps are done? Inspections?

Commented [BK21]: We specifically asked about small commercial boilers in this study, with "<300 kBtu/hr" being the exact phrasing. We received answers specific to small commercial boilers, and therefore are recommending a baseline specific to small commercial boilers.

Commented [BK22]: This is intended to provide further information for calculating savings for the following cases:

- in the event that a custom project involving the replacement of existing distribution systems or more advanced controls is submitted, the ISP recommendations may be used as supporting evidence in savings calculations
- For future impact evaluations, this information will be valuable as both installed and baseline equipment performance may be derated based on onsite conditions (i.e. as a condensing efficiency system is now the baseline, if an evaluator finds that supply and return water conditions on site are not conducive to condensing operation, both the baseline and the installed efficient equipment should have their efficiencies derated)
- We are acknowledging that effective outdoor air temperature setback is critical for these systems, as the design conditions supply temperatures specified are too high for effective condensing operation.

Commented [BK23]: This is a good point, and we should have been clearer. An existing condensing stack would be a disqualification for using anything other than the recommended condensing baseline equipment.

Commented [BK24R23]: A clearer version of this recommendation has been included in the memo.

Commented [BK25]: The first one

indicative of naturally occurring market adoption, which could occur simultaneously with customer lack of program awareness or a lack of desire to navigate the process required to receive the incentive, or it could imply high spillover. Eversource requests the evaluators provide data on the number of qualifying units that came through the program versus those that did not.

Commented [BK26]: Agreed, and at the very high percentage of projects that we've seen receiving incentives, it's likely a little of all of these. This is why we are recommending a condensing baseline.

Further, in the "Ancillary Findings" (slide 12), it is noted that "Most boiler projects received incentives" and "Incentives were cited as an important decision-making factor for customers." These findings seem to conflict with the statements above regarding market share.

Commented [BK27]: We will provide this information.

Commented [BK28R27]: This has been included in the report.

Commented [BK29]: Yes, agreed that these are contradictory statements, but this was consistent (and contradictory) across the board.

Thank you for the opportunity to provide comments.

Sincerely,

Jaelyn Rambarran

Jaelyn Rambarran
Analyst, Evaluation | Energy Efficiency | Eversource
Jaelyn.rambarran@eversource.com