Central Air Conditioning Impact and Process Evaluation – Recommendations

Recommendation 1: Consider using SEER in the PSD to calculate energy savings for this measure, but continue to use EER for peak demand savings. SEER better reflects the average of the EER over the range of operating conditions that would be seen over the course of a year, while EER is more representative of performance at the peak condition being estimated.

CL&P Response: CL&P is unable to revise the PSD for 2015, as this recommendation only arose in the final draft of the evaluation, but will consider the use of SEER in future years. For 2015, CL&P has incorporated results from the draft report into the 2015 PSD. Note that the use of EER versus SEER resulted from a 2009 evaluation which used EER within performance and savings calculations because the authors of that study believed the EER was a better proxy of actual performance. Therefore, CL&P will consider both studies as well as other available data to adjust the 2016 PSD.

Recommendation 2: Consider using the seasonal peak DSF from this study (0.45) in lieu of the PSD assumption of 0.591.

CL&P Response: The 2015 CT PSD uses the revised value.

Recommendation 3: Re-examine the manner in which tracking savings are calculated to ensure adherence to the PSD. Notable items in this regard include ensuring use of the proper baseline when calculating tracking savings, ensuring proper crediting of all savings associated with retrofit events, and not dividing lifetime savings by measure life to estimate annual savings.

CL&P Response: In the three years since the program period examined in the evaluation, CL&P has improved tracking and handling of central air conditioning data and savings estimates and calculates savings in accordance with this recommendation. In the event that CL&P reinstates early replacement rebates, tracking calculations will be reviewed to ensure that retrofit savings are handled properly.

Recommendation 4: Re-examine the method being used to gather and input CAC unit sizes (tons) and EERs in the tracking system to ensure accuracy and comprehensiveness. One idea in this regard might be to accompany each rebate application with model specification sheets from the AHRI database to ensure proper coding and backup.

CL&P Response: CL&P currently relies upon the use of the American Heating and Refrigeration Institute database to help assure accuracy of data.

Recommendation 5: Consider changing the term Annual Savings Factor (ASF) in the current PSD to reflect the fact that it is more of a Usage Factor. This term will make it more consistent with how it is used in the savings formula.

CL&P Response: CL&P is unable to revise the PSD for 2015, as this recommendation only arose in the final draft of the evaluation, but will consider this clarification in future years.

Recommendation 6: **Better emphasize, and more clearly communicate, the sizes and types of CAC rebates available to HES participants. As one participant noted, "[They] should say up front about [the] $500 rebate."**

CL&P Response: CL&P has streamlined central air conditioning rebates to a single, clearly-communicated offering.

Recommendation 7: **In program-related communications, emphasize the benefits of replacing systems before they break down, even if the system does not appear to be that old.**

CL&P Response: To an extent, this is less important because the current program is designed as a lost-opportunity offering. However, this kind of messaging can help to generate spillover savings, and CL&P encourages early replacement in its behavioral programs.

Recommendation 8: **In order to reach the target audience with rebate information sooner in the program process, thus improving the likelihood of early CAC replacement, the Companies or EEB may wish to consider exploring other approaches for getting the word out regarding the availability of substantial rebates for CAC replacement and other residential measures earlier in the participation process.**

CL&P Response: While the current program is a lost-opportunity offering, CL&P is pursuing upstream offerings in part to ensure that the program can affect decisions as early in the participation process as possible.

Recommendation 9: **While the energy auditor clearly plays an important role in participant decision making, most participants reported that the installation contractor was even more important. The Companies or EEB may want to foster closer relationships between HES vendors and CAC installation contractors to increase the likelihood that customers who obtain an audit will follow through with replacing their CAC with high efficiency equipment.**

CL&P Response: CL&P agrees with this recommendation and will continue to make deeper savings after the audit a critical goal for program vendors. CL&P frequently sponsors training and other efforts to assist HES vendors in encouraging upgrades and referring customers to contractors.

Recommendation 10: **Continue to make financing available for CAC replacement. While only 16% of participants took advantage of financing, its availability mattered a great deal to the majority of these customers.**

CL&P Response: CL&P has continued to make financing available, but notes that the benefits of providing financing must be weighed against the cost to the program.

Recommendation 11: **Although measuring free ridership was not an objective of this study, the findings regarding prior knowledge of the rebate and prior plans to install new CAC provide contradictory information on this important topic for early replacement rebate users. Specifically, users of the early replacement rebate were more likely to have been aware of the rebate prior to their HES audit—pointing to free ridership. However, users of the early replacement rebate were no more likely than standard rebate users to report having prior plans to install CAC equipment—suggesting free ridership is not higher among this group.**

CL&P Response: CL&P appreciates this information, and will evaluate the benefits of having an early retirement rebate. However, CL&P believes that the findings in the study regarding free-ridership for an early retirement offering support its view that an early retirement rebate could lead to gaming by contractors. Specifically, an early retirement rebate might encourage customers who are already purchasing an AC unit to take advantage of HES for the sole purpose of receiving a higher incentive.

Recommendation 12: **In light of the findings in this report and in the recent Massachusetts Cool Smart evaluation, the Companies may wish to reconsider the decision to discontinue the early replacement rebate. If the Companies decide to reinstate the early retirement rebate, it may be worthwhile for them to probe in more detail about the condition of the unit replaced.**

CL&P Response: CL&P is constantly considering possible revisions to the programs to enhance savings and cost-effectiveness, including the reinstatement of early retirement rebates. However, as stated above, CL&P is concerned about free-ridership with an early retirement rebate.

Recommendation 13: **The Companies may wish to consider some of the recommendations made by participants to encourage other customers to replace their CAC equipment. In particular, they may want to ensure that, when HES vendors recommend replacing CAC, they always provide information on costs and savings as well as the logic of replacing older but still functioning units with new units of higher efficiency. While it is likely that the HES vendors already have such a discussion with customers, they may need to find a way to emphasize it or explain it more convincingly, given the customer bias against replacing equipment that still functions. Another promising participant suggestion was follow-up with participants after the audit to encourage them to pursue recommended measures.**

CL&P Response: CL&P is pursuing enhanced follow-up with participants through both vendor education and behavioral programs. CL&P notes that, in many cases, this is a difficult discussion; early replacement of CAC generally offers much longer paybacks than other common measures.

Recommendation 14: **The Quality Installation option could be better supported. HES participant awareness of this option was low. The anecdotal evidence offered by participants in open-ended questions suggests that there are substantial challenges to the implementation of the Quality Installation option. However, opportunities appear to be limited by current availability of certified technicians. According to North American Technician Excellence (NATE), NATE certification is a requirement for Quality Installation. The NATE website lists contractors with NATE-certified technicians on staff to facilitate Quality Installation.**
It appears from this website that, as of March 2013, fewer than ten Connecticut-based HVAC contractors have NATE-certified technicians on staff. If the Companies wish to garner additional CAC savings by increasing the rate of Quality Installation of CAC in their service territories, they may first need to assess how to increase the number of qualified technicians in their service territories.

CL&P Response: CL&P does not limit installation to NATE-certified technicians - a complete list of participating contractors is available at the energize.ct website - but agrees that Quality Installation & Verification is difficult to appropriately incentivize and promote. CL&P will continue to review options for ensuring that HVAC equipment is properly sized and installed in Connecticut, including the QIV program as well as training and education.