



UIL HOLDINGS CORPORATION

157 Church Street, New Haven CT 06510-2100
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November 3, 2014

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

Re: Draft Memo R48: HES Additional Measure Review, dated October 16, 2014

Dear Ms. Skumatz:

The United Illuminating Company (“UI”), Connecticut Natural Gas Corporation (“CNG”) and The Southern Connecticut Gas Company (“SCG,” and with UI and CNG, the “Companies”), hereby submit the following comments on Draft Memo R48: HES Additional Measure Review, dated October 16, 2014. The draft was submitted on October 20, 2014 with a request for comments to be provided by November 3, 2014.

While the Companies appreciate the evaluator’s time and effort, we are disappointed in the Study. The Companies have already implemented one of the measures examined (foundation insulation) and are moving forward with two others (solar water heating and wireless thermostats). We also do not understand the inclusion of water heater blankets, a measure that has been around for decades.

The Companies keep current with energy efficiency technology through a variety of avenues, including literature reviews. We are uncertain of the value of using third party evaluators for simple literature reviews of well-known technologies. The Companies would be more interested if the study was more forward looking and looked at emerging technologies.

Recommendations from the Study are very general and do not appear to be well supported. Some comments regarding each measure are shown below.

Wi-Fi thermostats:

- “The most significant market barrier for Wi-Fi thermostats appears to be the high upfront cost associated with most products; the average Wi-Fi enabled thermostat costs around \$200.”
 - Is there any supporting documentation that pricing is a barrier?



- “The Companies should consider offering an incentive for Wi-Fi thermostats that does not exceed \$100.”
 - Please provide support for the proposed incentive level beyond two surrounding states.
 - Please provide additional input on how to implement this measure in a direct installation program such as HES.

Foundation wall insulation

- “The recent Single-Family Weatherization Baseline Assessment shows that 34% of Connecticut homes with foundation walls in conditioned space have uninsulated foundation walls. This indicates a significant opportunity for foundation wall insulation improvements in existing single-family homes in the state.” and “The recent Single-Family Weatherization Baseline Assessment shows that 34% of Connecticut homes with foundation walls in conditioned space (or 18% of all Connecticut single-family homes) have uninsulated foundation walls. This indicates a significant opportunity for foundation wall insulation improvements in existing single-family homes in the state.”
 - If 66% (or higher) of the homes have insulated foundation walls, was free ridership considered in the evaluation of this opportunity?
- “One issue with foundation wall insulation is that it can create or magnify moisture problems associated with basements.”
 - Please provide supporting documentation. If 66% of the homes have this measure, can this be considered a market barrier?
- “Very few energy efficiency programs currently incentivize this measure and moisture concerns are likely one of the contributing factors.”
 - Is there supporting documentation to this statement or should likely be replaced with may be?
- “Incentivizing this type of insulation is likely to provide cost-effective energy savings (average Benefit/Cost [B/C] ratio of 1.56 in the Potential Study) and increase compliance with the current weatherization standard.”
 - Please provide the numbers and assumptions used in the calculation including the proposed incentive levels.
- “Insulating the foundation walls of a basement can provide a homeowner with more usable space.” Installing foundation wall insulation brings the basement into the “thermal envelope” of the home....Insulating the foundation walls also allows homeowners to make the basement a usable space, either by finishing it or by capturing the HVAC system distribution losses to indirectly heat the basement space, thereby making it more comfortable.”
 - Was increased comfort and space used in the TRC test?
- “This keeps the basement warmer in the winter, which can be a major benefit in cold



climates as it can prevent pipes from freezing.”

- Please provide supporting documentation that this is an issue.

Water heater wraps

- “New water heaters with storage tanks have a higher R-value of insulation surrounding the tanks than older water heaters had. As a result, using water heater tank wrap insulation is likely not cost-effective on newer storage tanks. That said, many of the storage systems in existing homes (retrofitted through programs such as HES and HES-IE) have older storage tanks where tank wrap insulation would likely be cost-effective.”
 - Please provide a definition of newer and older.
 - Please provide supporting documentation on the age of water heaters found in HES and HES-IE.
 - Please provide additional detail on the federal standards governing water heater insulation and the dates those standards were enacted.
- “A cost-effectiveness screening analysis showed that water heater tank wrap, when self-installed, has an average benefit/cost ratio of 6.93 using the TRC test. The average benefit/cost ratio drops to 1.83 if one assumes that the tank wrap is installed by a certified contractor.”
 - Please provide the details and assumptions of the screening.
 - For self-installed, what installation rate was used for the B/C calculation?
 - What was the cost of installation for a contractor? Please provide assumptions regarding this estimate.
 - Please explain the rationale of providing a leave behind measure for a direct installation program.

Solar Assisted Water Heaters

- “While solar-assisted hot water systems are highly efficient, a recent study showed that a readily available heat pump water heater outperformed two types of solar hot water systems (see Section **Error! Reference source not found.**)”
- (Section 6.3) “A 2013 study by the Florida Solar Energy Center showed a heat pump water heater outperforming two different solar hot water systems (2.75 kWh/day consumption vs. 3.0 kWh/day and 3.4 kWh/day consumption, respectively). While these findings are not directly applicable to Connecticut homes due to their having been gathered in a much sunnier climate, the cost of a heat pump water heater is less than that of a solar-assisted hot water system by nearly half.”
 - Please provide a direct citation to the report.
 - While I cannot be certain I have reviewed the same report you mention, the results I reviewed clearly indicate the results are applicable only to the southern region. Please explain further your inclusion of this report in this research.



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- Your mention of a sunnier region infers the solar would be at even more of a disadvantage in less sunnier climates; while the report mentions ambient air and inlet water temperature negatively impacting HPDW performance (in comparison to solar) in northern regions. Please review and revise to appropriately reflect the report conclusions.
- “Additionally, the Companies already offer a \$400 rebate for heat pump water heaters.”
 - Please provide further explanation why incenting one technology is a market barrier to another type of technology.

The Companies and the Residential consultant continue to ask for additional detail on the calculations and the assumptions used in the residential evaluation studies. We are asking for this detail to be provided for this study as well. As we have previously requested, please provide the full list of measures screened, their BCRs, and screening assumptions.

Thank you for the opportunity to provide these comments.

Very truly yours,

A handwritten signature in blue ink that reads "Donna Wells".

Donna Wells
Manager Technical Support Services
UIL Holdings Corporation