**MEMORANDUM**

**DATE: 12/20/19**

**TO: Evaluation Committee**

**Cc: Companies, Michael Li, DEEP**

**FROM: EA Team**

**SUBJECT: Resolution of Issue of Treatment of Evaluation Studies in 2020 PSD and C&LM Planning**

As mentioned in our 11/14/19 memo to the Evaluation Committee, the Evaluation Roadmap calls for a back-and-forth process for checks on the incorporation of results of the Evaluation Studies into the PSD. At a high level, the overall steps are:

1. Evaluation results provided, with clear recommendations for updates to the PSD and program planning;
2. The Companies provide memos detailing how they plan to incorporate the results and recommendations into the PSD and identifying results and recommendations they do not plan to incorporate and why (at least 30 days before the results are needed for the PSD and planning process);
3. EA Team responds to the memos identifying whether the treatment of the results and recommendations from the evaluations into the PSD is adequate or not.
4. The EA team presents this to the Evaluation Committee.

In the 2020 process, the Utilities provided a document summarizing their planned treatment of results and recommendations relatively late in the process, and in a manner that was not directed at the EA Team. The EA Team had substantial issues with:

* the treatments proposed by the Companies, focused on one program, and the rationales the Companies used to adapt some of the results to prospective program planning, and
* with the process of response.

A phone call was held, the EA Team provided the “step 3” feedback memo on the values, and another call was held to discuss remaining differences. It was agreed that the EA Team would construct a table summarizing the issues, and the EA Team and the Companies would meet and try to work out an agreement on the differences, preferably before the end of 2019.

The table was exchanged and two conference calls were held; the EA Team and the Companies were able to come to agreement on the values for use in the PSD and 2020 C&LM Plan. The results are provided in the Table below.

**COMMITTEE ACTION REQUESTED:**

We request the Committee approve our presentation of the agreement and associated incorporation of evaluation results via e-vote.

**Agreements on Utility Treatment of Evaluation Results in the PSD and C&LM Planning (12/4/19; agreement 12/19/19)**

| Topic | A. Study / EA Team Adjusted Gross Value | B. Utility Gross Value (2015-16) | C.EA Team Revised | D. Discussion/EA Rationale | E. Utility Revised Proposal | F.EA Revised Proposal / Discussion | G. Resolution |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1.Lighting HES | 418 kWh savings;  Implied RR=47% | 891 kWh [[1]](#footnote-1) | 418 kWh savings; Calculated RR consistent with 2020 savings assumed (which EA Team agrees may be set to 2019 gross savings actuals throughout). | . | As filed in our 2020 PSD, utilities agreed to West Hill’s original results of 47%. | n.a. | Resolved / agreed.  Utility adopts Study values for HES. |
| 2. Lighting HES-IE | 262 kWh Savings;  Implied RR=28% | 927 kWh1 | 262 kWh Savings. Calculated RR consistent with 2020 savings assumed. | 2020 Plan suggests 747 gross kWh savings /home in 2019 YTD for HES-IE. Suggest lower delta watts and lower hours of use for number closer to 262 kWh. RR calculation depends on 2020 savings assumed by Utilities. (Utilities please provide) | ES: 2019 gross savings per home were 774 kWh as of December 6. To get 262 kWh implies a RR of 34%.  UI: 2019 gross savings per home were 1066 kWh  To get 262 kWh implies a RR of 25%.  Statewide blended RR would be 32% (.8\*.34 + .2\*.25).  HOWEVER, upon further discussion we continue to believe that our position as filed—to adopt HES results for HES-IE lighting—is a better reflection of likely lighting savings in 2020. We have significant doubts regarding the West Hill results of 262 kWh, given that they found HES lighting savings to be about twice as high (418 kWh) and that we would expect low-income homes to have higher levels of inefficient lighting to replace. In addition, low-income customers are more transient and further investigation of billing data has raised questions regarding how West Hill’s analysis of billing data accounted for customers with multiple service addresses during the period. | EA Team is most satisfied with Utility use of either 34% / 25% or blended rate of 32%. The final HES-IE billing analysis results from the study identify the 262 kWh savings estimate. Savings from the HES-IE program should be lower than HES (as estimated) because dwellings are smaller, more programs target this sector, and other reasons.  HOWEVER, to provide a compromise, EA Team agrees to Utility request to use HES realization rate / savings value for HES-IE as well. | Resolved / agreed.  EA team agrees to Utility request to use HES values for HES-IE as well. |
| 3. Duct Sealing | Only combination measure value available | RR=92.5% | Agree with Utility Treatment | Agree |  |  | Resolved / agreed. |
| 4. DHP | Adjust savings algorithm per 2016 Cadmus | Adjust savings algorithm per 2016 Cadmus | Agree with Utility Treatment | Agree |  |  | Resolved / Agreed |
| 5. Delivered Fuels | No separate analysis included, Natural gas findings should be applied. | Revert back to old RRs for delivered fuels. Recommend separate delivered fuels study. | Use same savings values as found for natural gas; this is best practice in other states. | Higher RR than defensible. Recommendation for delivered fuels study infeasible / not recommended / not standard practice. | Utilities prefer to maintain our position as filed. Given the already substantial uncertainties regarding the electric and gas results, we are not comfortable adding another layer of uncertainty in applying these results to fuels that were not included West Hill’s CT analysis. For NYSERDA’s HPwES program, Westhill found realization rates of 48 percent for natural gas and 60 percent for delivered fuels, so studies are possible.  HOWEVER, in the spirit of compromise, the utilities agree to accept the study’s gas results being applied to delivered fuels. | The EA Team believes that savings amounts for delivered fuels should be set to the same savings amount as found for gas. Best practice indicates translated savings from NG should be used. | Resolved / Agreed.  Utilities agree to adopt NG values per EA Team proposal. |
| 6. Gas Savings Insulation – HES - Eversource | 15.4 MCF; results in 124% RR based on Utility reported savings of 12.4 MCF | RR of 106.5% derived using weighted RRs of each utility. This results in savings estimate of 13.2 MCF based on 2015-16 reported savings[[2]](#footnote-2) | 17.4 MCF[[3]](#footnote-3) (midpoint); implies RR=140% for 12.4 MCF reported savings. Recompute with 2020 savings assumption. Maintain utility-specific values. | Some concession in values / consider leveraging from evalulated savings, avoiding RRs. Recommend 17.4 MCF savings (midpoint) to reflect positive program changes in programs. | 2019 gross savings per home were 15.6 MCF as of December 6.  To get 17.4 MCF implies a RR of 112%.  For HES, using company gas split and implied values, a consolidated RR would be .33\*112% + .67\*126% = 121% | EA Team agrees with this savings / realization rate treatment and value. EA Team is satisfied with HES program-wide blended RR. | Resolved / Agreed. Utilities agree to compromise savings value and implied RR provided by EA Team. EA Team satisfied with use of program-wide values; one for HES and one for HES-IE. |
| 7. Gas Savings Insulation – HES -UI | 15.4 MCF; results in 95% RR based on Utility reported savings of 16.1 MCF | RR of 106.5% derived using weighted RRs of each utility. This results in savings estimate of 17.1 MCF based on 2015-16 reported savings2 | 17.4 MCF (midpoint); implies RR=108% for 16.1 MCF reported savings. Recompute with 2020 savings assumption. Maintain utility-specific values. | Same principle as above. | 2019 gross savings per home were 13.8 MCF.  To get 17.4 MCF implies a RR of 126%.  For HES, a consolidated RR would be .33\*112% + .67\*126% = 121% | EA Team agrees with this savings / realization rate treatment and value. EA Team is satisfied with HES program-wide blended RR. | Resolved / Agreed. Utilities agree to compromise savings value and implied RR provided by EA Team. EA Team satisfied with use of program-wide values; one for HES and one for HES-IE. |
| 8. Gas Savings Insulation – HES-IE- Eversource | 15.8 MCF; results in 53% RR based on Utility reported savings of 29.6 MCF | RR of 106.5% derived using weighted RRs of HES RR (not HES-IE) of each utility. This results in savings estimate of 31.5 MCF based on 2015-16 reported savings2 | 17.4 MCF; (midpoint) implies RR=59% for 29.6 MCF reported savings assumption. Recompute with 2020 savings. Maintain utility-specific values. | Same principle as above | 2019 gross savings per home were 19.4 MCF as of December 6.  To get 17.4 MCF implies a RR of 90%.  For HES-IE, a consolidated RR would be .33\*90% + .67\*81% = 84% | EA Team agrees with this savings / realization rate treatment and value. EA Team is satisfied with HES -IE program-wide blended RR. | Resolved / Agreed. Utilities agree to compromise savings value and implied RR provided by EA Team. EA Team satisfied with use of program-wide values; one for HES and one for HES-IE. |
| 9. Gas Savings Insulation – HES -IE- UI | 15.8 MCF; results in 32% RR based on Utility reported savings of 49.6 MCF | RR of 106.5% derived using weighted RRs of HES RR (not HES-IE) of each utility. This results in savings estimate of 52.8 MCF based on 2015-16 reported savings2 | 17.4 MCF (midpoint); implies RR=36% for 48.6 MCF reported savings. Recompute with 2020 savings assumption. Maintain utility-specific values. | Same principle as above. | 2019 gross savings per home were 21.5 MCF.  To get 17.4 MCF implies a RR of 81%.  For HES-IE, a consolidated RR would be .33\*90%+ .67\*81% = 84% | EA Team agrees with this savings / realization rate treatment and value.  EA Team is satisfied with HES -IE program-wide blended RR. | Resolved / Agreed. Utilities agree to compromise savings value and implied RR provided by EA Team. EA Team satisfied with use of program-wide values; one for HES and one for HES-IE. |

1. Utilities increased Delta watts from 35 kWh per lamp in 2011 PSD, to 54 kWh per lamp for 2015-16. Increase is not defensible. Utilities calculate savings using 55 kWh x 2.7 hours per day. EA team argues 1) Delta watts too high (EISA and baseline), and 2) more defensible hours of use per day from studies is less than 2.3 hours/day and potentially closer to 1 hour/day. [↑](#footnote-ref-1)
2. The Companies were asked their reason for using a weighted statewide RR. Their reasoning was that having different offerings or different incentive levels between service territories in CT creates issues for vendors and confusion for customers. They therefore generally try to have statewide RRs so that they can offer the same incentive. This approach relies on problematic mathematics and produces divergent savings estimates. Also, it is not necessary to have a statewide RR in order to have statewide incentives and offerings. We note that no other state that we work in has adopted this practice. In those states, incentives are set statewide, and the reported RRs differ by utility when evidence of differences are detected. RRs may differ because of the underlying differences in weather or housing conditions or because one utility performs differently than another. [↑](#footnote-ref-2)
3. As the Plan notes, program changes have significantly reduced the over-estimation of savings that the billing analysis found.  We can see the possibility that these changes may also improve the performance within each home and result in some additional savings. For that reason, we are suggesting that the 15.4 MCF found for HES and 15.8 MCF found for HES-IE be raised to 17.4 MCF. The 17.4 value is the midpoint between the 15.8 value found for HES-IE and the 18.9 MCF Eversource reported as their 2019 projected gross HES-IE savings. We recommend setting HES values at this same amount. We also note that no significant differences were found between utility evaluated savings, so savings amounts apply to each utility. [↑](#footnote-ref-3)