CPUC Comments on SWWH025-03 Residential Heat Pump Water Heater, Fuel Substitution

Lead PA: SCE

Workpaper Submittal Date: 12/21/2020

CPUC Review Date: 02/25/2021

Please note responses to comments in the table below, revise workpaper, and upload the entire package to the WPA. If needed, please reach out to Workpaper Review Team to set up a call to discuss.

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| --- | --- |
| CPUC Comment | PA Response |
| Please update cover sheet to current template | Updated to newest cover letter. |
| Upon review of the SWWH025-03 calculator, AR measures do not use standard/code UEF to calculate first and second baseline. The calculator utilizes “pre” TechID efficiencies for the “existing” vintage. These pre efficiencies are different than standard/code efficiencies.  This observation deviates from what is stated in the “Electric Savings (kWh)” section. | Based on EnImpacts-Res tab, it looks like the calculator is using the Std tech ID for the Code/Standard column of the energy impacts. We have not adjusted the tool’s calculation methodology in any way to change how it establishes its Pre and Std savings. We simply adopted the Std case savings for both the 1st and 2nd baseline for AR measures.  To clarify the savings methodology, are changing the language to use: “This workpaper assumes that that the existing and standard base cases are both code compliance gas water heaters. Thus, AR measures will adopt the standard savings values for both the first and second baseline. NR measures also adopt the standard savings values as the first baseline.”  Also updated base case description based on version 4 comments to state “ This workpaper assumes that the existing case and standard case baselines use the same code compliant equipment.”  Savings confirmed to match between EAD and v4.2 water heater calculator. See screenshots below.  Graphical user interface, application, table, Excel  Description automatically generated |
| In “DEER Differences Analysis” section, please add reiteration of “Reason for deviation from DEER” from v.4.2 for <45gal HPWH e.g., measure was not available in v.4.2, added based on analysis of the CEC appliance database, AHRI database, and Energy Star qualified product list. | Added the following to clarify difference:  “ The <45gal HPWH measure was not available in v.4.2. It was added based on analysis of the CEC appliance database, AHRI database, and Energy Star qualified product list.” |
| Per CPUC Guidance – Please add the following to the workpaper:  *Incentive Requirements*  Deployment of the program may require rebates or financial incentives to participants that exceed the Incremental Measure Cost (IMC). Incentives or rebates that exceed the incremental cost for a measure must be justified by individual PAs in addendum to workpaper submissions to document program implementation practice prior to program implementation. | Added to the workpaper. |
| Per CPUC Guidance Please add the following to the workpaper under Measure Implementation Eligibility:  *Note that some of the implementation combinations below may not be allowed for some measure offerings by all program administrators.* | Added to the workpaper. |
| *Required Documentation for Normal Replacement in Upstream and Mid-Stream Delivery*  Per CPUC Guidance – please add the following:  *Required Documentation for Normal Replacement in Upstream and Mid-Stream Delivery*  For upstream/midstream delivery types, the participant baselines and spillover effects are unknown. Furthermore, the manufacturer(s) and distributor(s) do not know if the purchased measure is replacing a gas or an electric baseline appliance. Claimed savings for these delivery types will be adjusted using the ratio of baseline gas appliance to total baseline appliances. These ratios will be determined from CPUC sponsored saturation studies.[[1]](#footnote-1) The implementer shall survey 10% of the midstream installations, to determine actual gas/electric baseline proportions, and the program administrator shall adjust claimed savings based upon these survey results. This survey will be conducted monthly, by e-mail. A sample survey question is as follows:  “What was the fuel source of the equipment you replaced?”   1. Gas 2. Electric 3. I don’t know/I’m not sure   In addition, for midstream delivery method, the implementer should provide the retailer or distribution location where the product was sold, rated capacity, and proposed commercial building type in which the product will be installed.  A survey will not be administered for upstream delivery types.  *Required Documentation for Normal Replacement, New Construction, and Accelerated Replacement in Downstream and Direct Install Delivery*  For downstream deemed and downstream direct-install delivery types, in addition to the standard information such as building type, climate zone, and capacity of the units, the following data must be submitted with each project application by the project developer:   * What is the existing fuel type for space heating? * Did the site require any electric infrastructure upgrades for the proposed electrification measure? If yes, provide the itemized invoices with infrastructure upgrade costs. * Did the owner install any other electrification measures at this site? If yes, list the measures and provide the itemized invoices with infrastructure upgrade costs (if any). | Added to the workpaper. |
| Please include the POE document in the workpaper package .zip file. | POE will be included in the workpaper package. |
| Data collection requirements:  The measures describe base case equipment with draw patterns, but the measure cases do not. Thus, it is important to collect the existing first hour rating or draw pattern to apply for measure assignment. Otherwise, there will be ambiguity on which measure to select (the medium usage or high usage)  Other data collection recommended:   * Climate zone * Building type (SF, MH, or MF) * Approximate volume of the heat pump water heater tank in gallons * Heat pump water heater UEF * First-hour rating (FHR) of the heat pump water heater * Installed location (conditioned, unconditioned space) * For installations in conditioned space, the building heating and cooling type (e.g., split system AC with gas furnace, split system heat pump, central gas furnace without AC) * Is heat pump water heater exhaust ducted to outside or unconditioned space? (Yes/no) * Is heat pump water heater intake ducted to outside or unconditioned space? (Yes/no) | SCE discussed data collection with the IOUs and have added the following data collection requirements:   * Measure case equipment specifications including:   + Manufacturer and model number   + UEF   + Storage volume in gallons   + First Hour Rating (FHR) * Customer site information including:   + Climate Zone   + Building Type (for downstream and direct install measures)   Based on conversations with the IOUs (including risks on cost effectiveness of the measure) the following will not be included as they were determined to be burdensome and costly to the application process. They also may not be easy for customers to understand and report correctly:   * Installed location (conditioned, unconditioned space) * For installations in conditioned space, the building heating and cooling type (e.g., split system AC with gas furnace, split system heat pump, central gas furnace without AC) * Is heat pump water heater exhaust ducted to outside or unconditioned space? (Yes/no) * Is heat pump water heater intake ducted to outside or unconditioned space? (Yes/no)   SCE recommends for some of the more granular data collection recommendations to be supported by program evaluator as part of future impact evaluation studies. |
|  | We also updated the technology summary based on a comment for version 4. |

1. Itron, Inc. 2006. California Commercial End Use Survey. Prepared for the California Energy Commission. CEC-400-2006-005.  [↑](#footnote-ref-1)