CPUC Comments on SWHC049-02 – SEER-Rated AC and HP Equipment, Residential

Lead PA: SCE

Workpaper Submittal Date: 12/7/2020

CPUC Review Date: 02/12/2021

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| CPUC Comment | PA Response |
| SDGE has adopted the first revision of this WP. Please reach out to them and ask if they intend to adopt this revision of the WP as well – if so, they will need to add their implementation codes.  No SDGE implementation codes in the EAD table.  Verified that SDGE implementation IDs have been added. | EAD updated to include SDGE implementation IDs. |
| Please clarify what is meant by furnace specified at part of the AC system.  For split systems the certification will specify an evaporator coil model and may specify additional components. In some cases, a furnace is specified in the certificate. In this case since the furnace is specified as part of the AC system it will not be eligible for a separate incentive. | Agreed. There are no savings claimed from the furnace in the measure offerings. Hence, they should not be eligible for incentives. |
| CPUC guidance has rejected – gas base case for electric-electric workpapers. Please remove this criteria.  For new construction, installed equipment must be electric fueled. The Energy Standard or ISP baseline can be gas-fired. However, measure’s energy savings and cost evaluation and reporting will be based on the difference between the electric Energy Standard baseline and electric measure case (including AC and HP equipment). | **Savings for the measure offerings are only claimed for electric-to-electric components**.  Gas furnaces that come among with central ACs are eligible but savings from only electric enduse will be claimed.  Since this is not a fuel substitution workpaper, if the customer selects a central AC with gas furnace, the product is considered eligible as along as the electric portion is efficient and only savings from electric to electric are eligible. |
| CPUC would like to see additional cost data regression on the lower and higher SEER values included in this regression. Please revise and include in new workpaper package.  “This linear regression model was used to smoothen the cost trend and was used to extrapolate the costs of SEER14 (standard baseline model) and SEER21. This approach was deemed reasonable given the variability of cost data.”  03/10: SEER18 is halfway from SEER21. Only 3% of the products fall in the range of SEER19 to SEER21. CPUC would like to see more data on the higher SEER range. | On the low end of SEER ratings, SEER14 data was not available from programs data because it is a code minimum. When web resources were consulted for costs, there is a huge variability in cost information.  In the previous version of this workpaper v01, the costs were based on data from US Energy Information Administration, 2018 document which has material cost for SEER14 unit estimated at $1,116.67/ ton. The cost estimated in this version using extrapolation approach is $1070.04 is about 4% lower. Hence, the extrapolation was deemed reasonable.  Regarding costs on the higher end SEER ratings, 14% of the products used for the linear regression were SEER18 rated indicating reasonable representation.  03/30/2021 – Cost updated with latest program data, e.g., SCE’s Residential HVAC program from March 2020 to March 2021. This data had distributor cost for 1871 central heat pumps (HPs). Of there 14% of the installations were SEER 19 units. However, SEER 20 and SEER 21 has a small representation, 55 and 8 installations respectively, representing about 3% of total products.  **There is also limited if not none, unbiased information available from the web for the costs of high SEER units.**  Hence, SCE’s recommend estimating the cost of these SEER 20 and SEER 21 units using the regression fit developed for SEER 15 to SEER 19 units (including referenced data points for SEER 20 and 21). This regression fit can explain 88% of the variability between SEER rating and cost. For the future versions of the workpaper, it is expected that more data points will be available for these high SEER units and their costs will be estimated with better confidence. |

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.