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Additional submitted attachment is included below.



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March 1, 2019

California Energy Commission
Docket Unit, MS-4
Re: Docket No. 19-BSTD-02
1516 Ninth Street
Sacramento, CA 95814-5512

Daikin North America LLC (DNA) is pleased to submit these comments to the California Energy Commission's docket in to the presentations, discussions, and remarks made by various stakeholders at the February 15, 2019, California Energy Commission public workshop for Variable Capacity Heat Pump (VCHP) Modeling Approach. The following comments are intended to clarify DNA's positions and address certain issues raised during the public workshop.

DNA is headquartered in Houston, Texas, and employs thousands of workers across the United States including hundreds in California. The company manufactures residential and light commercial heating and cooling equipment, and its products are sold and installed by contractors in California and the other 49 U.S. states, as well as in Canada. DNA is a member of Daikin group, part of Daikin Industries, Ltd. (Daikin), one of the largest heating, ventilation and air conditioning (HVAC) manufacturers in the world, has several entities in the U.S. and California.

DNA is supportive of the VCHP proposed rating method, including the 5% for cooling and 7% for heating energy credits as well as the no-duct-loss credit to be provided to ductless and short-duct products, to be incorporated into CBECC-Res. DNA intends to continue working with CEC to further refine the rating and credit structure for CBECC-Res to incorporate in the future. This will include a preference to use an 80 percentile rather than a 90-percentile value for determining the credits.

DNA recognizes that manufacturers were sufficiently involved in conducting the Central Valley Research Homes (CVRH) field tests except for the first year, which led VCHP to be evaluated as minimum efficiency. DNA also recognizes that our inputs to the CVRH team were incorporated into the tests.

DNA sees a correlation between the VCHP's AHRI rated SEER values and measured energy performance, especially if the measured energy performance values of 14.6 and 19.0 SEER units are excluded. (For reference, please see slide 13 from the public workshop slides found at (<https://efiling.energy.ca.gov/GetDocument.aspx?tn=227124&DocumentContentId=57947>). At the same time, DNA believes that the above stated flat cooling and heating energy credit approach is acceptable for this first round of the VCHP rating method in CBECC-Res. We hope to continue discussion on this matter with the CEC team to reflect the AHRI rating values in the CBECC-Res compliance calculation in the future.



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DNA believes that the wall-mount thermostat requirement for spaces over 150 sq. ft. will not improve VCHP's energy performance or end user comfort. However, it will negatively impact the VCHP business by increasing the installation costs. We believe so because:

- If end users feel hot or cold, they will adjust a set point regardless of what the measured room temperature is.
- Even if remote control's temperature measurement is less accurate than wall-mount thermostat's measurement that should not make end users adjust a set point more frequently.

Finally, during the public meeting, a small number of stakeholders raised several concerns about the CVRH field tests as well as the proposed energy credits and compliance requirements for VCHP in CBECC-Res. These comments were presented in a way that implied industry wide support. DNA wishes to state for the record that these comments are not reflective of our company's position with regard to the CVRH field tests as well as the proposed energy credits and compliance requirements for VCHP in CBECC-Res. This topic generated much discussion amongst stakeholders. Although it was already stated at the workshop, DNA wants to ensure our position is included in the docket.

DNA appreciate the opportunity to file these comments in response to the discussion at the February 15, 2019, public workshop, and looks forward to working further with the CEC on this project.

Sincerely,

Nathan Walker
Senior Vice President
Daikin North America, LLC
A member of the Daikin group

cc: Rusty Tharp, Senior Director of Regulatory Affairs
Ryohei Hinokuma, Daikin U.S.
Charlie McCrudden, Daikin U.S.