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Comments to EPA on ENERGY STAR® Program Requirements for Draft 2 Light Commercial HVAC Equipment

July 3, 2009

Steve Ryan, EPA
c/o Christina Chang, ICF
ENERGY STAR Program Manager
Environmental Protection Agency
Ariel Rios Building, SW, MS 6202J
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Mr. Ryan:

CEE appreciates the opportunity to provide comments on the ENERGY STAR specification for Light Commercial HVAC Equipment (Draft 2). The following comments were developed by the CEE Commercial HVAC Committee (the Committee). Due to the 15 business day comment period, the Committee was unable to conduct a complete a full analysis of current voluntary incentive programs and kW/kWh savings implications. The Committee intends to complete this analysis in time for EPA's Draft 3 comment period.

Comments Pertaining to Equipment Less Than 65,000 Btu/h

Align ENERGY STAR with CEE Small Commercial Tier 1

The Committee applauds EPA's proposal to align split system air conditioner requirements with CEE's Tier 1, and recommends that EPA also align the ENERGY STAR performance requirements for packaged air conditioners (an increase in EER from 11.0 to 11.6). The Committee conservatively estimates that an increase in EER from 11.0 to 11.6 yields approximately 252 kWh annual savings per unit (for a 4 ton unit using U.S. national average run times) and demand savings of 0.13 kW per unit (based on California definition of peak demand). In places with significant cooling load, the expected savings per unit would be higher (e.g., in California the annual savings estimate is approximately 405 kWh per unit). CEE members report that they successfully promote these levels across the country and would value the recognition and promotional opportunity ENERGY STAR would bring to their programs. The Committee will demonstrate and convey this success to EPA using actual program data as soon as possible.

The Committee recognizes that the proposed increase in EER would result in a decrease of eligible equipment (from 25% to 18% based on a recent search on the CEE HVAC Directory). Given that, the Committee believes that the benefit of the alignment of incentive programs with the brand, the current CEE member program success at this level and the additional 0.13 kW demand and 252 kWh savings benefit per unit would be a net positive. The alignment of

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ENERGY STAR requirements with those of local incentive programs will enable further investment by CEE members in the ENERGY STAR brand.

In other product categories less than 65,000 Btu/h, we recommend that EPA align the ENERGY STAR levels with CEE Tier 1 in all instances where CEE exceeds the proposed requirements. These instances include increasing the proposed EER from 11.0 to 11.6 for single-packaged heat pump units and increasing the proposed HSPF from 8.2 to 8.5 for split system heat pumps. While model availability for packaged heat pumps is currently lagging behind ENERGY STAR's guideline of 25%, we believe aligning the ENERGY STAR Program with utility-funded incentives will expedite market change. Further, CEE members expressed that they have success at these levels. We are currently evaluating situations where current CEE Tier 1 levels fall below the proposed levels for ENERGY STAR, and will consider revisions to the CEE specification to achieve alignment with ENERGY STAR if appropriate.

EPA asked for stakeholder feedback on alignment of the ENERGY STAR Light Commercial Specification with the residential ENERGY STAR HVAC performance levels. The Committee agrees that the most critical alignment is between ENERGY STAR and CEE Tier 1 commercial HVAC performance levels. Therefore, achieving alignment with the residential specification is not worth the tradeoff of failing to align ENERGY STAR with local incentive programs for small commercial equipment.

ENERGY STAR “Tier 2”

CEE continues to have concerns regarding the risks of predicting future ENERGY STAR performance requirements and recommends EPA only address requirements for ENERGY STAR in 2010 at this time. When evaluating future ENERGY STAR requirements, we suggest EPA consider the advanced performance levels already promoted by local efficiency program administrators (CEE Tier 2) as one possibility when the actual market conditions warrant a change in distinction. The Committee would also like to recognize that one manufacturer has recommended adoption of CEE Tier 2 for ENERGY STAR packaged air conditioners at this point in time and applaud their leadership in the market. Given current market conditions, we believe CEE Tier 1 continues to represent performance levels that are appropriate for recognition by ENERGY STAR in 2010.

Comments Pertaining to Equipment Greater Than 65,000 Btu/h

Points of Agreement on Proposed Direction

The Committee supports EPA's direction to align the 65,000 to 135,000 Btu/h and 135,000 to 240,000 Btu/h equipment size categories as those proposed categories correspond to the ranges used in the CEE Commercial HVAC Specification as well as the ASHRAE 90.1 standard. The Committee also agrees that EPA should consider variable refrigerant flow (VRF) technology for inclusion in this specification when the new industry test procedures are available. If agreements with manufacturers so permit, the Committee requests that EPA share an equipment performance data set that includes VRF performance data to inform design of local efficiency programs. In

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addition, the Committee agrees with EPA's proposal not to differentiate the equipment performance levels based on heating type (i.e., electric resistance vs. gas).

Proposed Performance Levels

Regarding performance levels for equipment greater than 65,000 Btu/h, the Committee reviewed the EPA's proposed EER levels for air-source air conditioners in reference to the current CEE Tier 1 levels. As noted previously, the Committee generally supports alignment of the proposed ENERGY STAR and CEE Tier 1 performance levels. Given the 15 day comment period, it has not yet performed a thorough analysis of the energy savings potential for the 65,000 to 135,000 and 135,000 to 240,000 equipment categories. So, CEE will not comment at this time on whether the proposed EER levels meet the brand tenets of ENERGY STAR in light of the January 1, 2010 federal minimum standards. The Committee plans to conduct a thorough investigation and can provide EPA with additional feedback regarding the proposed ENERGY STAR levels during the next round of comments.

The Committee acknowledges that the proposed EER level for air-source air conditioners greater than 135,000 Btu/h but less than 240,000 Btu/h is 0.2 higher than the CEE Tier 1. Given the Committee's initial review of the AHRI product directory there is sufficient product availability at that level.

In reviewing the CEE specification later this year, the Committee may propose revised CEE Tier 1 levels that would align with ENERGY STAR.

Basis for Exclusion of Equipment Larger than 240,000 Btu/h

The current CEE Commercial HVAC Specification includes performance specifications for split system and single package equipment in sizes greater than 240,000 Btu/h. The Committee requests that EPA provide its rationale for limiting the proposed ENERGY STAR specification to equipment less than 240,000 Btu/h and consider adopting the CEE Tier 1 categories and levels for equipment greater than 240,000 Btu/h.

Basis for IEER Performance Levels

The Committee understands that EPA does not have data at this stage to conduct analysis on IEER levels. The Committee requests that EPA provide the basis for those IEER levels proposed in the specification and any supporting calculations if available, which will enable associated analysis and allow the Committee to provide an informed response.

Air-Source Heat Pump Comments

To support alignment of the CEE Tier 1 and proposed ENERGY STAR performance levels, the Committee requests that EPA increase its COP value for equipment greater than 65,000 Btu/h and less than 135,000 Btu/h from 3.35 to 3.4. This request is based on the multiple benefits of having ENERGY STAR align with CEE Tier 1 performance levels rather than on an analysis of the incremental energy savings benefit. Finally, the Committee acknowledges that ENERGY STAR's proposed EER level for heat pumps greater than 135,000 Btu/h and less than 240,000 Btu/h is lower than the CEE Tier 1 level. Given that very few products qualify at the proposed

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ENERGY STAR level (and that there are no qualifying products at the CEE level), the Committee supports EPA's proposal and plans to explore alignment with ENERGY STAR later this year.

Once again, CEE would like to thank the EPA for the opportunity to comment on the ENERGY STAR specification for Light Commercial HVAC Equipment (draft 2). Please contact CEE Senior Program Manager, Jason Erwin, at 617-337-9269 with any questions about these comments.

Sincerely,



Marc Hoffman
Executive Director

Supporting Organizations:

New York State Research & Development Authority (NYSERDA)
Southern California Edison (SCE)