

April 30, 2010

Katharine Kaplan
Environmental Protection Agency
c/o Christina Chang, ICF Consulting
1725 Eye Street NW, Suite 1000
Washington, DC 20006

Dear Ms. Kaplan:

Thank you for the opportunity to provide input on the ENERGY STAR® Climate Controls Specification (Specification). On behalf of the CEE Residential HVAC, Evaluation, and Gas Committees (Committees), please accept the following comments. The organizations listed at the end of this letter have indicated their individual support.

These comments continue to represent the informed opinions of relevant committee members. They illustrate the characteristics of an ENERGY STAR Climate Control Program that is likely to be supported by energy efficiency program administrators. Many of the ENERGY STAR program details ultimately adopted by EPA will require market data and empirical analysis, which CEE does not possess. We have reiterated previous CEE comments on ENERGY STAR Programmable Thermostats below that remain relevant to Climate Controls.

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| ENERGY STAR Differentiates Climate Controls that Enable Energy Savings |
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Requirements that Yield Energy Savings are Prioritized in the Specification

CEE respects and supports all the stated brand tenets of ENERGY STAR. Working within those tenets, the Committees encourage EPA to prioritize the capability to save energy when setting requirements for labeled Climate Controls. The Committees recognize that it may not be possible to set the specification at a level that immediately generates significant energy savings, ensures a very short payback period, and results in 25 percent of climate controls

being labeled as ENERGY STAR. We believe that consumers shopping for a programmable thermostat may be less concerned with achieving a very short payback period; however, a longer payback must be accompanied by sustained energy savings.

Default Temperature Settings Maximize Energy Savings

We support EPA’s decision to set default temperatures in the specification that will maximize energy savings without deviating from acceptable comfort norms. While the exact temperatures specified by EPA should be informed by market research on consumer tolerances for temperature and humidity, the proposed defaults appear reasonable to the Committees based on anecdotal program experience.

Labeled Climate Controls are “Upgradeable” to Enable Two-Way Communication

We support EPA’s intention to qualify products that do not possess two-way communication “out of the box” if they are upgradeable with aftermarket modules and software. The Committees believe there is a small, but growing number of consumers that would take advantage of communications capability. Some CEE members running both gas and/or electric efficiency programs would value thermostats that possess the capability to communicate with a home energy management system (EMS). Additionally, a smaller subset of CEE members implementing load management programs would value thermostats that could communicate with an *Advanced Meter* without necessitating the installation of an after-market component directly on the equipment. The requirement that ENERGY STAR Climate Controls are upgradeable will support this growing need, without imposing high costs on consumers who will not benefit from this functionality immediately.

Labeled Climate Controls Meet *Usability* Requirements That are Performance Based

The Committees believe that a user-friendly interface is a necessary, but not sufficient, condition for saving energy with a climate control. The Committees support ENERGY STAR’s plans to develop a usability benchmark to objectively evaluate whether products that earn the ENERGY STAR label will be easy for consumers to operate and will result in energy savings.

However, the Committees are concerned that prescriptive *usability* requirements could have unintended consequences. The proposed prescriptive requirements

contained seem unnecessarily restrictive (e.g., a “single button push”) and lacking a technical basis for inclusion. We recommend that EPA critically evaluate the need for—and possible unintended consequences of—prescriptive requirements and incorporate less prescriptive wording whenever possible.

Any Prescriptive Requirements Deemed Necessary Are Carefully Worded to Enable Innovation

The Committees suggest EPA assess any proposed prescriptive requirements included in the specification against:

- *Technical communications best practices, e.g., the effects of graphics and text on comprehension and retention, and*

- *Human-Centered Design Processes for Interactive Systems (ISO 13407)*

To further ensure that ENERGY STAR program requirements are not stifling innovation for the long term, the Committees also recommend that EPA eliminates prescriptive requirements once a performance-based usability benchmark becomes available.

Labeled Climate Controls Are Flexible to Meet the Full Spectrum of Variation for Time of Use (TOU) Pricing in the U.S. and Canada

The Committees support EPA’s efforts to address peak demand and to label products that enable consumers to respond to time of use rates that may be in effect in their local service territories. They also support efforts to encourage standardized communication of these price signals to consumers. However, the Committees believe this market may not be ready for the degree of standardization currently proposed by EPA. The Committees have specific concerns about the inclusion of LEDs dedicated to particular price tiers and suspect that it would be more cost-effective and less confusing to require price signals be conveyed in the LCD display rather than with LED lights.

Labeled Climate Controls Are Only Required to Possess Capabilities that Yield Benefits Nationally, Save Energy, and are Cost-Effective to Consumers

One aspect of the proposed Climate Controls specification is humidity. In item #14 of the technical requirements, EPA states that “when properly implemented,

this feature can reduce energy consumption by maintaining user comfort at a higher cooling set point."

The Committees have reviewed this proposal and are concerned that humidity control will increase upfront costs (possibly driving consumers to lower priced alternatives), yield minimal benefits in arid climates, and may increase energy use for the reason described below. The potential energy savings sought by EPA will only be realized if customers: a) understand how to correctly utilize the humidistat functionality, and b) choose to maximize savings over comfort. The Committees are concerned that in the majority of cases, both of these conditions will not be satisfied, increasing the likelihood of increased energy use.

Thank you again for the opportunity to comment. Please contact John Taylor, CEE Residential Senior Program Manager at 617-532-0944 with any questions.

Sincerely,



Marc G. Hoffman
Executive Director

Supporting Organizations

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