

October 22, 2010

Katharine Kaplan
ENERGY STAR[®] Program
U.S. Environmental Protection Agency
Washington, DC 20036

Dear Katharine:

CEE appreciates the opportunity to provide comments on the Draft 2 ENERGY STAR Version 3.0 specification for set-top boxes (STBs). CEE is the binational organization of energy efficiency program administrators, whose members are responsible for ratepayer-funded efficiency programs in the United States and Canada. CEE members actively work to make ENERGY STAR the relevant platform for energy efficiency across North America. The Committee recognizes that there are significant energy savings opportunities in set-top boxes and supports EPA's investigation—through this specification revision—into how ENERGY STAR's work in the set-top box market can be even more effective. The following comments were developed by the CEE Consumer Electronics Committee (Committee), and the organizations listed below have chosen to indicate their strong individual support for this letter.

The development of an ENERGY STAR specification for set-top boxes is complex. The draft specification documents address many types of set top boxes that vary significantly in their functionality, energy consumption, and how they operate. In addition, the manner in which the products covered under the proposed specification are placed into use varies, with a minority going through a retail channel and a majority being deployed by service providers with little, if any, involvement by the end consumer in product selection. One foundational question for EPA is: Given these conditions, how will EPA employ a labeling approach that delivers on the brand tenets and promise of ENERGY STAR? Based on its efforts to date to promote ENERGY STAR set-top boxes, the Committee's judgment is that this will be a difficult task, though one that is worth the effort given the aggregate savings potential. We stand ready to assist EPA in whatever way possible.

Within the Committee's comments on Draft 1, it asked that EPA (as the party leading the specification development process) provide the data and information listed below. We continue to request that this information be shared, as it is necessary for the Committee to provide meaningful comments on the potential for voluntary, prescriptive efficiency programs in support of ENERGY STAR set-top boxes:

- **Market penetration:** In order for voluntary energy efficiency programs to promote ENERGY STAR set-top boxes, the label must identify and differentiate the most efficient models. According to the established principles for the ENERGY STAR brand, performance levels are generally set to identify the top 25 percent of products. When ENERGY STAR specifications conform to this guideline, they typically provide an effective tool for energy efficiency programs promoting efficient products. EPA’s presentation to stakeholders seems to indicate that IP set-top boxes will qualify for Version 3.0 at a particularly high rate (11 of 17, or almost 65 percent), and EPA has shared with the Committee that 16 of 40 models of any type currently on the ENERGY STAR product qualification list—or 40 percent—meet the qualification criteria proposed for Version 3.0. We ask EPA to share, in the absence of market share data, the presumed relationship between model availability and installed units, as well as the supporting basis for the proposed levels.
- **Incremental measure cost:** Another tenet of the ENERGY STAR brand is that a product that bears the label is cost effective to the end user. Does EPA have any information on any additional costs associated with producing or purchasing products that meet the efficiency requirements in the Draft 2 specification?
- **Energy savings:** EPA has stated that the Draft 2 Version 3.0 specification requirements represent a 25 percent reduction in the Typical Energy Consumption (TEC) requirements of Version 2.0. CEE thanks EPA for providing that savings estimate, as it provides a ballpark of the savings associated with the proposed levels. To add to that data point, we ask EPA to provide information on the energy savings of an ENERGY STAR-labeled product as compared to a baseline or standard efficiency product. This would seem to be a helpful input to EPA as it calculates the cost effectiveness of the proposed levels. In addition, the difference in energy use between a labeled product and a standard product is an essential input for efficiency programs considering promoting ENERGY STAR set-top boxes with incentives.
- **Duty cycle:** The Committee requests that EPA share its methodology for developing the duty cycle assumptions for set-top boxes that are used in the TEC equations. Duty cycle estimates are another piece of information that helps energy efficiency programs gauge their ability to offer a cost-effective energy efficiency program for set-top boxes.

In addition to these more general questions, the Committee has several more specific questions about the Draft 2 specification:

Deep Sleep: The Committee would like to better understand EPA’s rationale for not requiring a specific level in the definition of Deep Sleep State (line 93). EPA has indicated that it sees great energy savings potential in a Deep Sleep state, and the specification provides significant incentives to service providers for purchasing set-top boxes with Deep Sleep capability. Yet as the definition stands (“A power state within Sleep Mode characterized by reduced power consumption...”) it would appear a box could use even 1 Watt less than when otherwise in Sleep Mode and qualify for the incentives. The absence of a specific number for Deep Sleep also challenges energy efficiency

programs to accurately measure the energy savings associated with Deep Sleep. Without this information, it will be difficult for them to promote Deep Sleep in any incentive programs.

The Committee would also like to better understand how boxes with Deep Sleep capability will be deployed. Is it possible under the specification that a service provider could purchase and receive an incentive for a Deep Sleep capable box, but then configure the box so as to disable the Deep Sleep capability? If so, what are the consequences to ENERGY STAR, to consumers, and to efficiency programs? Would end users have the ability to enable Deep Sleep functionality? Why or why not? How can the specification be crafted to ensure that EPA's intentions with regard to Deep Sleep are realized?

Since a key element in the successful market adoption of set-top boxes that deliver energy savings from Deep Sleep operation would appear to be what amount of wake time consumers would tolerate, the Committee encourages EPA to assess this tolerance within the United States market. This information could be particularly important if EPA is considering requiring inclusion of Deep Sleep state in a future specification.

Multi-room deployments: In its presentation to stakeholders, EPA presented information indicating that there is a great potential for energy savings in multi-room deployments in all scenarios, but especially for those involving true thin clients. The Committee is extremely interested in this savings opportunity, but it does not have sufficient information to assess whether the incentive scheme posed by EPA in Draft 2 (in which service providers receive a 50 percent premium towards the purchase requirement and the base allowance for thin clients is comparatively easier to meet) will result in widespread production and deployment of true thin clients and the accompanying realization of energy savings. It would be helpful for the Committee to understand what other incentive scenarios EPA contemplated, why those proposed were deemed most promising, and whether EPA has received supportive input from service providers and manufacturers.

Future specification revisions: The Committee supports EPA's goal of ensuring that its specifications remain relevant and useful to consumers, industry, and energy efficiency programs and that they benefit the environment in a product area with rapid developments in market and technological conditions. The Committee would like to better understand how frequently EPA intends to review this specification and what market and technical conditions might trigger a specification revision in the future, including changing the effective date of future tiers. For example, is market penetration a trigger, and if so, what percentage would prompt EPA to consider a specification revision? Lastly, we ask EPA to comment on how the proposed strategy of setting future performance specifications for set-top boxes maps against its larger strategy for managing the ENERGY STAR brand.

In its discussion, the Committee has also identified two comments for EPA's consideration:

Pro-rated requirements for service providers: The absence of a pro-rated purchasing requirement in Version 2.0 was a barrier to at least one potential partner of a CEE member energy efficiency program. To the extent that the pro-rated requirement proposed in Version 3.0 (ENERGY STAR

Program Requirements for Set-top Box Service Providers section 3.1.2) removes a barrier to service providers becoming ENERGY STAR partners, the Committee supports it.

Home Network Interface: In a product like set-top boxes with very dynamic technical developments, the Committee is concerned that an existing or future technology (e.g., IEEE P1901 powerline networking standard) is not encompassed by the Draft 2 definition of Home Network Interface. The Committee suggests EPA revise this definition so as to avoid the unintended consequences of such a limiting approach.

Thank you again for the opportunity to comment on this important specification revision. If you have any questions about these comments, please contact CEE Program Manager Margie Lynch at MLynch@cee1.org or 617-337-9277. CEE looks forward to continuing to work with EPA on this specification and the promotion of ENERGY STAR qualified set-top boxes.

Sincerely,



Marc Hoffman
Executive Director

Supporting Organizations

Avista Utilities
BC Hydro
Cape Light Compact
DTE Energy
Hydro-Québec
Long Island Power Authority
Midwest Energy Efficiency Alliance
New York State Energy Research and Development Authority
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