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Ms. Katharine Kaplan  
ENERGY STAR for Consumer Electronics  
U.S. Environmental Protection Agency  
Washington, DC  
[televisions@energystar.gov](mailto:televisions@energystar.gov)

cc: Ms. Verena Radulovic  
Mr. Owen Sanford

Dear Ms. Kaplan:

Sony would like to thank the ENERGY STAR for coordinating the stakeholder webinar on June 8<sup>th</sup> 2011 to discuss and review Draft 1 v6.0 Television Specifications. We, therefore, take this opportunity to submit comments on the various topics discussed during the webinar.

#### Data Set and Proposed Levels

The proposed levels were established based on data for currently ENERGY STAR qualified models and by utilizing a revised equation to determine on-mode compliance for products with Automatic Brightness Control (ABC). This proposed equation assumes consumers will view television programming equally at four different ambient light conditions (300lux, 150lux, 100lux, and 10 lux). There are several concerns with the proposed equation and the selected ambient light conditions. First, we strongly believe consumers do not watch TV at ambient light levels around 300 lux. Ambient light at this level is considerably bright. Second, the 300 lux value was initially selected during the development of Equation 1 for saturation purposes and to ensure the ABC would be inactive at high ambient light levels. Therefore, the 300lux level should not be taken into account for calculating on-mode power, and most importantly, to conclude that the revised equation will yield the expected qualification rate. Without power data at the different ambient light levels, we feel it is premature to assume that 20% of currently qualified models meet the proposed power levels in v6.0.

The proposed levels in v6.0 continue to set an energy cap on televisions with screen sizes larger than 1068 square inches. The energy cap prevents large-size, energy efficient televisions from qualifying in the program despite the tremendous improvements in energy consumption. The energy cap skews the data and misinforms consumers. Sony requests the ENERGY STAR to consider removing the cap. Setting power levels that accurately account for the screen size to determine compliance is the most reasonable course of action we recommend to allow consumers equal access to ENERGY STAR televisions across all different sizes.

#### ABC Testing

The Consumer Electronics Association (CEA) is diligently working with industry members and interested parties to collect ambient light data in consumers' homes. The data will assist industry in defining an equation that truly and statistically represents typical ambient light levels. Sony requests the ENERGY STAR to defer finalizing Equation 1 and setting on mode requirements for televisions with ABCs until the CEA completes its comprehensive data collection and analysis.

Sony believes the proposed ambient light levels selected for Equation 1 do not accurately represent typical ambient light levels in households. The proposed ambient light levels only breakdown ambient levels in four equal sections that result in an average power measurement. Average power readings must not be taken in consideration unless they statistically represent the population or data under evaluation. The proposed power measurement at 300 lux is not equally or statistically representative of typical ambient light levels in the household for viewing television programming. If kept in the proposed equation, its weight must be significantly less compared to the power measurements at 150, 100, and 10 lux.

The ENERGY STAR proposes the following equation to measure on-mode power (for products with ABC):  $P = \{P(10\text{lux}) + P(100\text{lux}) + P(150\text{lux}) + P(300\text{lux})\}/4 + 25 \times \{P(300\text{lux}) - P(10\text{lux})\}/290$

In our initial analysis of the proposed Equation 1, we determined that a more appropriate proposal to measure on-mode power for TVs with ABC is:

$$P = \{P(75\text{lux}) + P(50\text{lux}) + P(25\text{lux}) + P(10\text{lux})\}/4 + \{P(75\text{lux}) - P(10\text{lux})\}/52$$

This equation removes the power measurement at 300lux since it is intended to saturate the light sensor. It is not a recommended ambient light level for the household. This equation was derived following the same methodology the ENERGY STAR used in the explanation in Draft 1. Ambient light measurements were taken on a vertical plane to replicate light perception at the light sensor built into the television. Ambient light levels must not be measured with the light sensor on the horizontal plane to determine what the television perceives at the sensor. We must also recognize that ambient light meters are extremely reactive to small changes in light levels. For that reason, it is imperative to set tolerances when using a light meter rather than taking a power measurement at a specific light level. Third party labs will be faced with the difficult task of validating power measurements when light variances are present in addition to light meter accuracies that vary from manufacturer to manufacturer.

## Power Management

Sony employs different technologies across the different televisions categories in efforts to aid consumers reduce energy use while the TV is not used as intended. These same technologies are often used to optimize performance parameters on certain televisions. Consumer behavior and viewing habits play an important role in determining how prevalent and effective power management technologies will become. Presence sensors, intelligent presence sensors, and other similar technologies currently employed offer unique benefits. Presence sensors operate similar to intelligent presence sensors. The latter provides more sophisticated and specialized functions. If ENERGY STAR would like further information regarding these technologies, please let us know and we can arrange to provide additional information and details.

We recognize the need to quantify usage of these technologies and net energy savings they provide. Unfortunately today, the methods and technologies to collect this data have not been developed. Televisions with such features and technologies are typically offered to consumers at a higher price tag. We ask the ENERGY STAR to recognize manufacturers that provide these technologies and to allocate an incentive in the program requirements so that manufacturers are rewarded when offering these technologies and to assist promoting proliferation of these technologies in the years to come.

## Network and Internet Connectivity

The EPA is proposing that televisions be tested with the Internet Test Loop included in IEC 62087 as well as with the Dynamic Content Test Loop to accurately gauge a television's energy consumption while viewing internet content. First, in reviewing market data, Sony believes the number of televisions with Internet connectivity on the market today is small compared to non-internet capable televisions. Second, the Internet Loop found in IEC 62087 is in DVD format and intended to be displayed through the use of a DVD player while injecting the content into the television via HDMI connection. Internet content or video streaming is conducted through the use of the Ethernet port or via wireless. In addition, the picture level of the internet content is not representative of picture levels for televisions. We therefore do not believe the internet content in IEC is adequate to test televisions with internet connectivity. In the absence of an appropriate test procedure that would ensure the correct ports are enabled and active during testing, we request the ENERGY STAR to postpone criteria in the program requirements until a comprehensive test procedure has been developed.

There is no data available to conclude consumers are viewing internet content or streaming video on top of the assumed 5 hours of daily use. Sony believes the 5 hours of daily viewing are comprised of cable, internet, and video streaming. For that reason, the 5-hour figure selected for determining power consumption on a 24-hour period already accounts for the energy consumption in televisions with internet connectivity. For the reasons mentioned above, we recommend the best approach is to report the energy consumption with internet ports enabled and disabled so that the ENERGY STAR can capture the differences in energy consumption when ports are active or inactive.

Lastly, requiring testing televisions with internet connectivity, in addition to testing televisions with the proposed ABC (at four different ambient light levels) will significantly increase the number of tests to qualify televisions. The increase in activities during testing will be associated with an increase in cost to test televisions.

## Toxicity and Recycling

The Sustainability Consortium is actively working with manufacturers and retailers to develop a comprehensive program to promote environmental attributes in televisions. A label will be created to assist consumers in making educated decisions about the product they buy.

Sony believes the ENERGY STAR should abstain from collecting toxicity and recycling data and from referencing to existing standards for this matter. Agencies such as EPEAT have developed comprehensive requirements to collect this data. Most importantly, The ENERGY STAR has not been recognized as a promoter of environmental initiatives other than energy efficiency. Consumers have learned to associate the Energy Star logo with energy efficiency for many years. Since it is our belief that the Energy Star logo will remain unchanged, and that the energy star will not engage in additional activities to promote this subject other than listing toxicity and recycling data on its website, there is little or no benefit to consumers and to manufacturers in including this subject in the energy efficiency program requirements. Redundancy and duplicity in these activities must be avoided at all cost.

## Additional Comments

*Definition of Sleep Mode:* The definition in the proposed Draft 1 is different as compared to version 5.3. The ENERGY STAR failed to point out the subtle change in both, the Draft 1 document and during the webinar. While the subtle changes in language may be perceived insignificant, the new definition may stifle innovation and prevent televisions from qualification. We request the ENERGY STAR to keep Sleep Mode as defined in version 5.3.

*The proposed effective date of May-June of 2012 for version 6 is less than one-year away.* Most manufacturers including Sony are finalizing 2012 models in the months of May and June of 2011. Even if a new technology was readily available to meet the proposed on-mode levels, the proposed effective date does not provide the necessary lead time to comply with the proposed on-model levels. In previous meetings and conversations with the EPA, we were informed a typical specification revision process should take place every 2 years. Version 5.3 will be in effect for 6 months before version 6 is planned for becoming effective. These rapid and sudden announcements are discouraging and disruptive to every manufacturer. Despite significant improvements in energy efficiency in televisions across all different screen sizes, manufacturers continue to be pressed not only with highly restrictive performance criteria. Difficulties to comply are accentuated by facing significant time reductions between effective dates in specification versions.

The proposed effective date represents a tremendous disruption to engineering, production, and marketing teams. The proposed effective date will require that a substantial amount of 2012 models have all Energy Star materials removed. Materials such as instruction manuals, packaging, product logos, and software-driven messages that inform consumers about the benefits of selecting the Home mode during the initial setup will require modifications that result in additional cost to manufacturers and ultimately to consumers. We request the ENERGY STAR to set an effective date for May-June in 2013.

Thank you in advance for your careful consideration of our comments.

Sincerely,



Timothy McGowan  
Vice President, Service Engineering