Information Technology Industry Council

U.S. Environmental Protection Agency
Office of Air and Radiation
ENERGY STAR® Program
Attn: displays@energystar.gov

January 30, 2015

Re: ENERGY STAR for Displays Version 7.0 Draft 1 Specification

Dear Verena,

The Information Technology Industry Council (ITI) represents the leaders in sustainable energy efficient design in the information and communications (ICT) sector. We appreciate the opportunity to provide comments to the EPA and DOE as regards the ENERGY STAR for Displays Version 7.0 Draft 1 Specification and Draft 2 Test Method. Our detailed comments follow.

Section 1.A.1 (lines 28-31), Definition of Enhanced Performance Displays.

Given that regulators globally often classify products according to the ENERGY STAR Program Requirements, Industry prefers that the separate definition for Enhanced Performance Displays be maintained in the product definitions section of the ENERGY STAR specification (as a subset of Electronic Displays that are in scope).

Section 1.D.2 (lines 83-98) and Test Method (lines 169-197), Full Network Connectivity/Testing Products with Networking Capability.

Full Network Connectivity is not applicable to Computer Monitors/Displays that are limited to displaying analog or digital content from the host device/computer. Computer Monitors/Displays that receive and display analog or digital content from the host device/computer are not providing "networking capability". The V 7.0 Program requirements should be consistent with the Draft Test Methods that identify characteristics of "Networking Capability" that are completely different than the digital or analog signal that host devices/computers provide to Computer Monitors/displays. (Refer to Draft Test Method section 5.2.C.1.c).

Displays with additional I/O ports including Ethernet ports are intended for use as a docking station replacement for notebooks--host device/computer. They do not turn on or respond without the host device/computer.

Note: The ENERGY STAR Program Requirements are often referenced by regulators elsewhere in developing energy efficiency regulations, and such regulators often mistakenly draft language that could be interpreted as requiring Computer Monitors/Displays to provide a "Networked Standby Mode" when these displays do not have or provide any "Networking Capability."

Section 2.1.1 ii (lines 172, 175-184), Monitors with keyboard, video, mouse (KVM) switch functionality.

KVM does not include a stand mechanism to use on a desk surface or in an office environment. KVM are only used in a server rack located inside the data center with restricted access. Although KVM are available for purchase by consumers, costs range from $800.00 to $6,000.00 depending on the number of ports provided by the switch.

The usage model for a KVM is unknown but assumed to be minimal. To access and activate the KVM, the server rack must be opened, and the trays extended. After work is performed, the KVM is folded down and stowed back into the rack where the KVM enters sleep mode. Industry supports the EPA's willingness to research a TEC approach, but the KVM usage model would not be aligned due to the low number of hours the device is actually being used. The benefits provided by KVM include saving space by allowing a single console to manage multiple servers. KVM save power by reducing the number of keyboards, monitors, and mice needed to administer servers and save time by allowing access to multiple servers from a single console.

Draft 2 Test Method Section 4C (lines 25-36), DC Input Power.

Although KVM are shipped with an AC power cord, the majority are dc powered via a PDU (Power Distribution Unit). The test standard only allows testing with dc if that is the only available source of power for the products. This approach does not take into account the high number of KVM models powered by a PDU.

Industry recommends removing KVM from the scope of ENERGY STAR until further studies can be performed to ascertain the appropriate usage model and ability to test via dc power provided by the PDU's.

Section 3.3.1 thru 3.3.5 (lines 249-411), Maximum On Mode Power Consumption Requirements.

Consistent with input provided for Enhanced Performance Displays (EPD), EPA's proposed On Mode power consumption limits are too aggressive when all displays on the market are considered. Analysis of manufacturers' displays that are currently on the market (ENERGY STAR certified and non-ENERGY STAR certified) indicates that the limits have been set so that greater than 75% of all Displays on the market will be ineligible for ENERGY STAR. Industry feels that EPA should not attempt to "future proof" ENERGY STAR Program energy efficiency limits, as this will reduce product availability for customers and in effect punishes manufacturers for striving for higher levels of product energy efficiency.

Section 3.2.2 (lines 237-2470), Power Management.

Industry recommends revising the Draft's power management requirements to note that Computer Displays must be capable of being power managed by the host device/computer, versus the display itself being designed to implement power

management. Rationale: Computer Displays do not power manage themselves (with exceptions noted below), but are capable of being power managed by the host computer (including entering a low power Sleep or Other Mode when the display loses signal (vertical or horizontal sync).

Most Computer Displays support VESA Display Power Management Signaling (DPMS).

Industry therefore recommends the following revised text for Section 3.2.2:

> *"i. Products shall offer at least one power management feature that is enabled by default, and that can be used to automatically transition from On Mode to Sleep Mode either by a connected host device or internally (e.g., support for VESA Display Power Management Signaling (DPMS), or response to loss of either horizontal or vertical sync, enabled by default).*
>
> *ii. Products that generate content for display from one or more internal sources shall have the capability enabled by default to automatically engage Sleep or Off Mode.*
>
> *iii. For products that have an internal default delay time after which the product transitions from On Mode to Sleep Mode or Off Mode, the delay time shall be reported.*
>
> *iv. For products that have an internal power management capability, the default, as-shipped delay time (to transition from the On mode to a low power Sleep or Off mode), shall not exceed 15 minutes after being disconnected from a host computer."*

Section 3.3.3 (lines 356-374), Equation #2.

As noted in the feedback provided for section 3.3.1 above, industry believes that EPA's proposal for new On Mode power consumption limits was based on ENERGY STAR certified models alone and did not consider all displays on the market. The proposed On Mode limits for Enhanced Performance Displays (EPD) are also too aggressive and will eliminate too many models from the market.

Industry therefore is providing power consumption data for all displays on the market, and requests that EPA set more realistic On Mode limits for all types of displays that are in scope of the ENERGY STAR V 7.0 Program requirements. Masked data will be supplied separately in the next few weeks.

Section 3.4.1 (lines 413-428), Sleep Mode Requirements.

The V 6.0 Sleep Mode Allowances deleted from the Draft 1 of the V 7.0 requirements should not have been deleted; i.e. Allowance for Bridging (USB- 1x– 3x, and Memory (Flash Memory, Readers, camera, etc.). All of these additional features/services require

additional power when the display is in a Sleep Mode condition (particularly during testing) and existing designs/technologies have not changed such that the existing V 6.0 allowances are no longer required. These adders from V 6.0 need to remain in V 7.0 as Displays still have these feature sets.

Industry would like to understand what was EPA's rationale for eliminating these adders from the current requirements.

Section 3.5.1 Table 3 (lines 470-479), Maximum Off Mode Requirement.

Should EPA insist on retaining dc-powered products in scope, we request that a 0.25 W Adder be included in addition to the 0.5 W Off Mode limit for ac and dc powered products (USB, POE, etc.). Rationale: These displays are typically a secondary display (integrated into the housing of the primary display) that is provided for Commercial products where the computer user needs to share content with another person (typically a customer).

Section 5.1.1 (lines 501-508), Reference to Standard IEEE P1621.

Industry recommends that EPA remove the User Interface standard reference, as the use cases are very different today from those that existed for the 2002 standard.

Regards,

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