



Information Technology Industry Council

June 5, 2015

Ms. Verena Radulovic
U.S. Environmental Protection Agency
Office of Air and Radiation
ENERGY STAR® Program for Consumer Electronics
Attn: displays@energystar.gov

RE: Draft 2 Version 7.0 ENERGY STAR Displays Specification

Dear Verena,

ITI appreciates the opportunity to provide input on the Draft 2 Version 7.0 ENERGY STAR Displays Specification (Draft 2).¹ ITI has strongly supported the ENERGY STAR specification for displays and will continue to work with EPA and other stakeholders to ensure the success of Version 7.0. In reviewing Draft 2, ITI appreciates several of the improvements made by EPA over Draft 1. ITI has also identified several significant and substantive areas of concern with Draft 2 that will need to be addressed prior to finalization of the specification. Given the outstanding areas of concern that need to be addressed, ITI does not believe that the proposed development timeline for the specification with a final draft and specification being issued over the next two months is feasible. In addition to our comments, ITI is also including in this submission additional data on over 200 additional displays for consideration by EPA. ITI makes the following recommendations prior to finalizing the specification.

1. ITI strongly recommends further review of how the TEC approach should be applied to monitors prior to finalization of the specification.

Draft 2 proposes the adoption of a Total Energy Consumption (TEC) approach for monitors.² This represents a significant shift in how displays will qualify for ENERGY STAR. In reviewing products with the new TEC approach, ITI member companies are finding that the proposed TEC limit as applied is overly restrictive. ENERGY STAR has the stated goal to recognize the top 25% most energy efficient products in a product category. The ENERGY STAR Products Program Strategic Vision and Guiding Principle document states, "Experience has shown that it is typically possible to achieve the necessary balance among principles by selecting efficiency levels reflective of the top 25% of models available on the market when the specification goes

¹ See ENERGY STAR Program Requirements Product Specification for Displays, Eligibility Criteria Draft 2 Version 7.0 (Draft 2), available at www.energystar.gov/sites/default/files/Draft2_Version7_Displays_Spec.pdf.

² See Draft 2, page 6.

into effect.”³ For Version 7.0, ITI urges EPA to follow this historical experience in keeping to the stated goal of the top 25% of products qualifying for ENERGY STAR. While it is true in the past that manufacturers have made advancements to increase the percentage of products on the market that qualify for ENERGY STAR, setting an overly restrictive cap penalizes rather than rewards this behavior. Rather than attempting to “future proof” a specification based on the possibility that manufacturers may or likely will work to increase the percentage of products that can qualify, EPA should reset limits on an appropriate frequency, approximately every two years, and set appropriate limits based on the 25% goal to make sure that customers can still purchase an adequate number of qualified products. As regulations and ENERGY STAR specifications become more restrictive, the rate at which manufacturers can continue increasing the number of products that can qualify for ENERGY STAR is currently and will continue to taper off, particularly given customer preferences for larger displays. As currently proposed in Draft 2, the TEC approach would result in a significantly less than 25% of products qualifying for ENERGY STAR. ITI recommends further review to ensure that the TEC approach does not excessively restrict products from qualifying for ENERGY STAR.

ITI believes part of the problem for certain monitors may be with the formula used to calculate Total Energy Consumption. Draft 2 proposes the following formula to calculate Total Energy Consumption:⁴

Equation 1: Total Energy Consumption Calculation

$$\text{ETEC} = 8.76 \times (0.35 \times \text{Pon} + 0.65 \times \text{Psleep})$$

Where: ETEC is the Total Energy Consumption calculation in kWh; PON is Measured On Mode Power in watts; PSLEEP is Measured Sleep Mode Power in watts.

ITI seeks input on how EPA arrived at the factor of 0.35 for Pon and 0.65 for Psleep and would like to work with EPA to determine appropriate factors for the different groups of monitors under consideration. As proposed, the formula in some cases will not yield realistic results.

2. ITI recommends that the definition of Enhanced Performance Displays (EPD) be included in Section 1.

Draft 2 does not include the definition for Enhanced Performance Displays. While the On Mode limits do account for the characteristics and additional power consumption EPDs require in On Mode in section 3.3.4, there is still a need to include a specific definition for EPDs in the product definitions Section 1. We recommend retaining the existing Ver. 6.0 definition Section 1.A. 1) a)

³ See ENERGY STAR Products Program Strategic Vision and Guiding Principles, Jan. 2012, available at https://www.energystar.gov/ia/partners/prod_development/downloads/ENERGY_STAR_Strategic_Vision_and_Guiding_Principles.pdf?0544-2a1e.

⁴ See Draft 2, Page 7.

1, so that there will be clarity as to the products that can use the EPD On mode formula and limits.

Extract of Ver. 6.0 Display Program Requirements Definition for Enhanced Performance Displays

(EPD):Enhanced-Performance Display: A computer monitor that has all of the following features and functionalities:

- (a) A contrast ratio of at least 60:1 measured at a horizontal viewing angle of at least 85°, with or without a screen cover glass;*
- (b) A native resolution greater than or equal to 2.3 megapixels (MP); and,*
- (c) A color gamut size of at least sRGB as defined by IEC 61966 2-1. Shifts in color space are allowable as long as 99% or more of defined sRGB colors are supported.*

As other entities, utilize and refer to ENERGY STAR program requirements for definitions of products, it is critical to maintain a clear definition of EPDs.

3. ITI recommends a review of how allowances are applied for EPDs.

As mentioned above, Section 3.3.4 of Draft 2 provides for an energy allowance for EPDs.⁵ The three aspects used to define an enhanced performance display (contrast ratio, native resolution, and color gamut) are problematic in providing consistency with allowances. There are technologies that may meet all 3 aspects of the definition and therefore get the allowances. However, there are technologies that, for example, may meet and exceed by far the contrast ratio and color gamut, but do not meet the resolution requirement. These technologies because of the better performance in color gamut and contrast ratio still need more energy and would benefit from the adders.

4. Industry needs additional time to gather information on specific trends and technologies relevant to Draft 2 to make appropriate recommendations for their inclusion in Version 7.0.

ITI member companies are in the process of gathering information on the following technologies relevant to Version 7.0.

1. LED trend especially on their efficiency and power consumption for the next 2 years
2. Survey of the panel cell type and the power consumption of their logic circuit
3. Difference in power consumption between the various color standards
4. Gathering more information for added features, standards upgrades on their impact power and design consideration
 - Display Port specs from 1.2 to 1.3
 - USB C, USB3.1

⁵ See Draft 2, Page 11.

4. ITI recommends a review of luminance levels for signage displays

Draft 2 does not currently have a cap on luminance assuming that signage displays with a luminance above 500 cd/m² can meet the specifications. ITI recommends that the specification limit the brightness levels on such products to a range, for example between 500 and 950 cd/m², which would be an adequate range for indoor signage displays.

Conclusion

ITI appreciates the opportunity to provide comments and looks forward to working with the EPA to insure the success of the Version 7.0 specification. We will be submitting additional information and analysis on these areas of concern and request that EPA delay finalization of the specification until EPA and industry has had adequate time to consider the above areas of concern.

Sincerely,

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