

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460



OFFICE OF  
AIR AND RADIATION

October 22, 2008

Dear ENERGY STAR® Displays Partner or Other Interested Stakeholder:

The U.S. Environmental Protection Agency (EPA) and the European Commission (EC) welcome your input on the following Draft 2 Version 5.0 ENERGY STAR Displays specification. EPA is revisiting the ENERGY STAR specification for displays to set performance levels that ensure the ENERGY STAR mark continues to represent the top performers in terms of energy efficiency. This document outlines the proposed new energy efficiency requirements that displays will need to meet in order to earn the ENERGY STAR mark. It is intended that once final, this document will replace the current Version 4.1 Computer Monitor specification. The proposed effective date for Tier 1 of this specification is October 21, 2009.

On behalf of EPA, I would like to thank all stakeholders who provided feedback in response to the Draft 1 Version 5.0 ENERGY STAR Displays specification (distributed on July 24, 2008) and for their active participation at the September 25 stakeholders meeting. All of the feedback received aided the revision of this draft specification.

The Draft 2 Version 5.0 Displays specification includes the following key changes from Draft 1:

- Testing products at fixed luminance settings as follows (Draft 1 called for testing at default luminance):
  - CRTs: 100 cd/m<sup>2</sup>.
  - Displays of less than 30" viewable diagonal screen size and less than or equal to 1.1 MP resolution: 175 cd/m<sup>2</sup>.
  - Displays of less than 30" viewable diagonal screen size and greater than 1.1 MP resolution: 200 cd/m<sup>2</sup>.
  - Displays of greater than or equal to 30" viewable diagonal screen size: 350 cd/m<sup>2</sup>.
- Proposed Tier 1 On Mode requirements based on the following equations:
  - Displays of less than 30" viewable diagonal screen size and less than or equal to 1.1 MP resolution:  
 $P = 6*(MP) + 0.05*(A) + 3$ .
  - Displays of less than 30" viewable diagonal screen size and greater than 1.1 MP resolution:  
 $P = 9*(MP) + 0.05*(A) + 3$ .
  - Displays of greater than or equal to 30" viewable diagonal screen size:  
 $P = 35*(MP) + 0.12*(A) + 4$ .

(Note: P is expressed in watts and rounded up to one decimal place; MP is the number of megapixels in decimal form (e.g., 1,920,000 pixels = 1.92 megapixels); and, A is the viewable screen area of the product rounded to the nearest whole number, calculated by multiplying the viewable display width by the viewable display height.)
- Tier 1 Sleep and Off Mode requirements that vary by product diagonal screen size:
  - Displays of less than 30" viewable diagonal screen size: Sleep Mode less than or equal to 2 watts; Off Mode less than or equal to 1 watt (identical to the requirements in the current Version 4.1 monitor specification).
  - Displays of greater than or equal to 30" viewable diagonal screen size: Sleep Mode less than or equal to 4 watts; Off Mode less than or equal to 2 watts.
  - For all displays, regardless of size, Tier 2 Sleep and Off Mode requirements of less than or equal to 1 watt (no change from Draft 1).
- To determine an alternative power consumption value for products that ship with Automatic Brightness Control enabled, the following procedure will be used:  $Power = 0.8 * Power1 + 0.2 * Power2$ . This assumes the display will operate in low ambient light conditions (0 lux) 20% of the time, and high ambient light conditions (300 lux) 80% of the time.

- Expanded labeling language confirms EPA will consider alternative proposals for electronic labeling.
- EPA has added accreditation requirements for laboratories associated with product qualification.
- EPA has modified the definition of Sleep Mode and clarified the definition of Off Mode.
- EPA has changed the required minimum crest factor of the power meter to be used in testing from five to three.
- EPA has added a paragraph on Greenhouse Gas Emissions under the Future Specification Revisions section, and indicated interest in receiving input from stakeholders on ways to address these high global warming potential gases. EPA anticipates holding a web based meeting in November to further discuss this issue.
- EPA has replaced the section that was titled, "Sleep Mode Exception," with a section titled, "Power Management Requirements," to clarify EPA's approach to the management of Sleep and Off modes under Version 5.0 of the Displays specification, noting that displays must have at least one mechanism enabled by default that allows the display to automatically enter Sleep or Off Mode.
- EPA has added a methodology for measuring the power consumption of products powered by a standard low voltage dc supply.

EPA is posting the following documents to the ENERGY STAR Display Product Development Web site:

- Draft 2 Version 5.0 Displays specification (also attached here);
- a masked version of the dataset EPA used to determine the proposed energy efficiency requirements in this Draft 2;
- a data analysis completed to support the Draft 2 Display specification; and,
- a compilation of Partner comments on Draft 1 of the specification and EPA's responses to those comments (the Comments Matrix).

Stakeholders are requested to provide **written comments on the Draft 2 specification no later than Wednesday, November 12, 2008. Please send comments via e-mail to both Christopher Kent at [kent.christopher@epa.gov](mailto:kent.christopher@epa.gov), and Elliott Rector, ICF International, at [erector@icfi.com](mailto:erector@icfi.com).** All comments received will be posted to the ENERGY STAR Product Development Web site unless specifically requested otherwise. **On Monday, December 2, 2008, EPA will host a webinar to discuss the Draft 2 specification.** Please relay your intention to participate in this webinar to Elliott Rector **by November 24, 2008.** Information on how to join the webinar and a draft agenda are forthcoming.

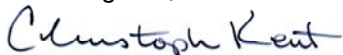
An updated proposed timeline for the Displays specification revision process is provided below:

Wednesday, November 12, 2008	– Comments due on Draft 2 specification
Monday, December 2, 2008	– Webinar to discuss Draft 2 comments
Wednesday, December 10, 2008	– Draft Final Version 5.0 Displays specification to industry
Monday, January 5, 2009	– Comments due on Draft Final Displays specification
Wednesday, January 21, 2009	– Final Version 5.0 Displays specification to industry
Wednesday, October 21, 2009	– Effective date of Version 5.0 Displays specification

The exchange of ideas and information between EPA, industry, and other interested parties is critical to the success of ENERGY STAR. To track EPA's progress in revising the ENERGY STAR Displays specification and to review comments, please visit the Product Development Web site at [www.energystar.gov/productdevelopment](http://www.energystar.gov/productdevelopment) and click on "Revisions to Existing Specifications."

Thank you for taking the time to review this Draft specification. Please feel free to contact me directly with any questions or concerns at (202) 343-9046 or via e-mail at [kent.christopher@epa.gov](mailto:kent.christopher@epa.gov).

Best Regards,



Christopher Kent, EPA Product Manager  
ENERGY STAR Product Specification Development

Enclosure:

Draft 2 Version 5.0 ENERGY STAR Displays Specification