

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



OFFICE OF  
AIR AND RADIATION

March 30, 2009

Dear ENERGY STAR® Displays Partner or Other Interested Stakeholder:

On behalf of the U.S. Environmental Protection Agency (EPA), I am pleased to present you with the Final Version 5.0 ENERGY STAR Displays specification. The new Version 5.0 specification will go into effect on October 30, 2009 for displays under 30 inches viewable diagonal screen size, and on January 30, 2010, for displays between 30 and 60 inches, inclusive. EPA has appreciated and given its full consideration to the feedback it has received from stakeholders throughout the development process. All draft specification documents, analyses, and comments received throughout this process are available on the ENERGY STAR *Revisions to Existing Product Specifications in Development* Web page at [www.energystar.gov/productdevelopment](http://www.energystar.gov/productdevelopment).

Enclosed with this cover memorandum is the Version 5.0 ENERGY STAR Displays specification, Annex 1, and Annex 2.

Below is a list of the changes reflected in these documents:

**Version 5.0 ENERGY STAR Displays Specification**

**Maximum Diagonal Screen Size**

As noted in the March 12, 2009 memorandum, given that EPA has only three data points for models sized from 60 to 103 inches, EPA considers this dataset too limited to represent the array of products on the market. Therefore, EPA is not setting a maximum On Mode power consumption requirement for displays over 60 inches and thus will not qualify any displays greater than 60 inches under this version of the specification. However, while collecting data pursuant to Tier 2 development, EPA will explore revising this size limitation.

**Maximum On Mode Power Consumption Requirements**

Also noted in the March 12, 2009 memorandum, based on the data EPA received after issuing its request in December 2008 for data on displays 30 inches and over, EPA has set a new maximum On Mode power consumption requirement for displays between 30 and 60 inches, inclusive, of:  $P_o = 0.27 * (A) + 8$ .

**Extend Effective Date for Displays of 30 to 60 Inches to January 2010**

EPA has changed the Off Mode power requirement for displays of 30 to 60 inches to reflect the 1W upper limit mandated by the European Union Standby standard scheduled to take effect on January 7, 2010. Because of the global nature of these products, EPA anticipates a dramatic impact of the EU Standby standard on the standby levels for products sold in the US. Hence, EPA is extending the effective date for this product category by three months, to January 30, 2010, to coincide with the EU standard's implementation date.

**Revised Maximum Off and Sleep Mode Power Consumption Requirements**

Based on the data EPA received following its December 2008 request, and the anticipated effect of the EU Standby standard, in addition to aligning the maximum Off Mode power consumption requirement for all displays to 1W in Off Mode, EPA has lowered the Sleep Mode requirement for displays of 30 to 60 inches from 4W to 2W. According to EPA's dataset, when combined with the new On Mode power requirements, the qualification rate for these displays is 25%.

### **Luminance Boundary Levels**

For these larger displays, EPA has opted to not set a default luminance boundary under Tier 1. Instead, EPA will require Partners to test their products at default luminance and report these luminance levels to EPA. Under Tier 2, EPA may propose a default luminance boundary based on data collected between now and the Tier 2 effective date of October 30, 2011, in order to harmonize the specification with other ENERGY STAR specification levels (and possibly international levels).

### **Annex 2 – Test Procedures for Displays between 30 and 60 inches diagonal, inclusive**

#### **On Mode Power Consumption for Displays of 30 to 60 Inches**

To determine On Mode power consumption, Partners shall be required to measure only ' $P_{o\_broadcast}$ ' as described in section 11.6.1, "On mode (average) testing with dynamic broadcast-content video signal," of IEC 62087, Ed 2.0: Methods of Measurement for the Power Consumption of Audio, Video and Related Equipment.

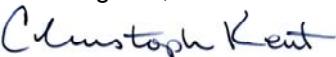
#### **Measuring Luminance**

Section 11.5 of IEC 62087 references four static test images: the black level, white level, full field color bar, and three bar video signal. Instead of measuring the display's luminance using all four of these test images, the Partner shall be required to measure the display's luminance using only the three bar video signal. EPA made this change because the On Mode power consumption observed when using this signal correlates strongly to that observed when measuring ' $P_{o\_broadcast}$ ', typically revealing only a 2% difference.

In the coming months, EPA will provide stakeholders with instructions on how to become or continue as an ENERGY STAR Displays Partner. These instructions will include appropriate partnership and/or commitment forms and a forecast of product data submittal requirements in advance of the effective date of the specification. Once this specification enters effect, the process to qualify displays will be generally consistent with the process under Version 4.0. That is, an active manufacturer partnership will remain a requirement, and the Partner will submit data through the Online Product Submittal (OPS) tool at [www.energystar.gov/ops](http://www.energystar.gov/ops).

EPA wishes to thank all stakeholders who provided feedback during this specification revision process. If you have any questions or concerns about the new Version 5.0 specification, please feel free to contact me at (202)-343-9046 or [kent.christopher@epa.gov](mailto:kent.christopher@epa.gov).

Best Regards,



Christopher Kent, EPA Product Manager  
ENERGY STAR Product Specification Development

Enclosed:

- Version 5.0 ENERGY STAR Displays specification;
- Annex 1; and
- Annex 2.