



ENERGY STAR[®] Computer Monitor Stakeholder Online Meeting

November 27, 2007

**Christopher Kent, U.S. EPA
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Agenda Review



Welcome and Introductions

Christopher Kent

U.S. Environmental Protection Agency (EPA)

2:30 p.m. – 2:40 p.m.

Review of Agenda

Christopher Kent, EPA

2:40 p.m. – 2:45 p.m.

Overview and Discussion of Topics Outlined in EPA's Monitor Discussion Guide

- Widening scope of specification
- Future technology opportunities
- Power requirements of built-in features and interfaces
- Testing
- Harmonizing EPA's display specifications in the future

Christopher Kent, EPA

Marla Sanchez, Lawrence Berkeley National Lab

All

2:45 p.m. – 3:40 p.m.

Stakeholder Comments on Discussion Guide

EPA invites interested stakeholders to provide feedback on other topics of interest to review during the monitor specification revision process during this portion of the meeting.

All

3:40 p.m. – 4:05 p.m.

Timeline and Next Steps

Christopher Kent, EPA

4:05 p.m. – 4:15 p.m.

Adjourn

4:15 p.m.

Presentation Overview



- Summary of current ENERGY STAR monitor specification
- Discussion of topics outlined in Discussion Guide
 - Scope of new specification
 - Future technology opportunities
 - Harmonizing EPA's display specifications
 - Power requirements of feature-rich displays and interfaces
 - Definitions and Performance Metric
 - Product testing
- Timeline and next steps

ENERGY STAR Monitor Savings



- Through 2006:
 - 170 billion kWh of energy saved, equivalent to lighting 95 million homes for one year
 - \$19 billion in avoided consumer energy costs
 - 33 million metric tons carbon avoided, equivalent to the annual emissions of 23 million cars
- Monitors account for ~40% of EPA's ENERGY STAR voluntary product labeling greenhouse gas savings achieved to date

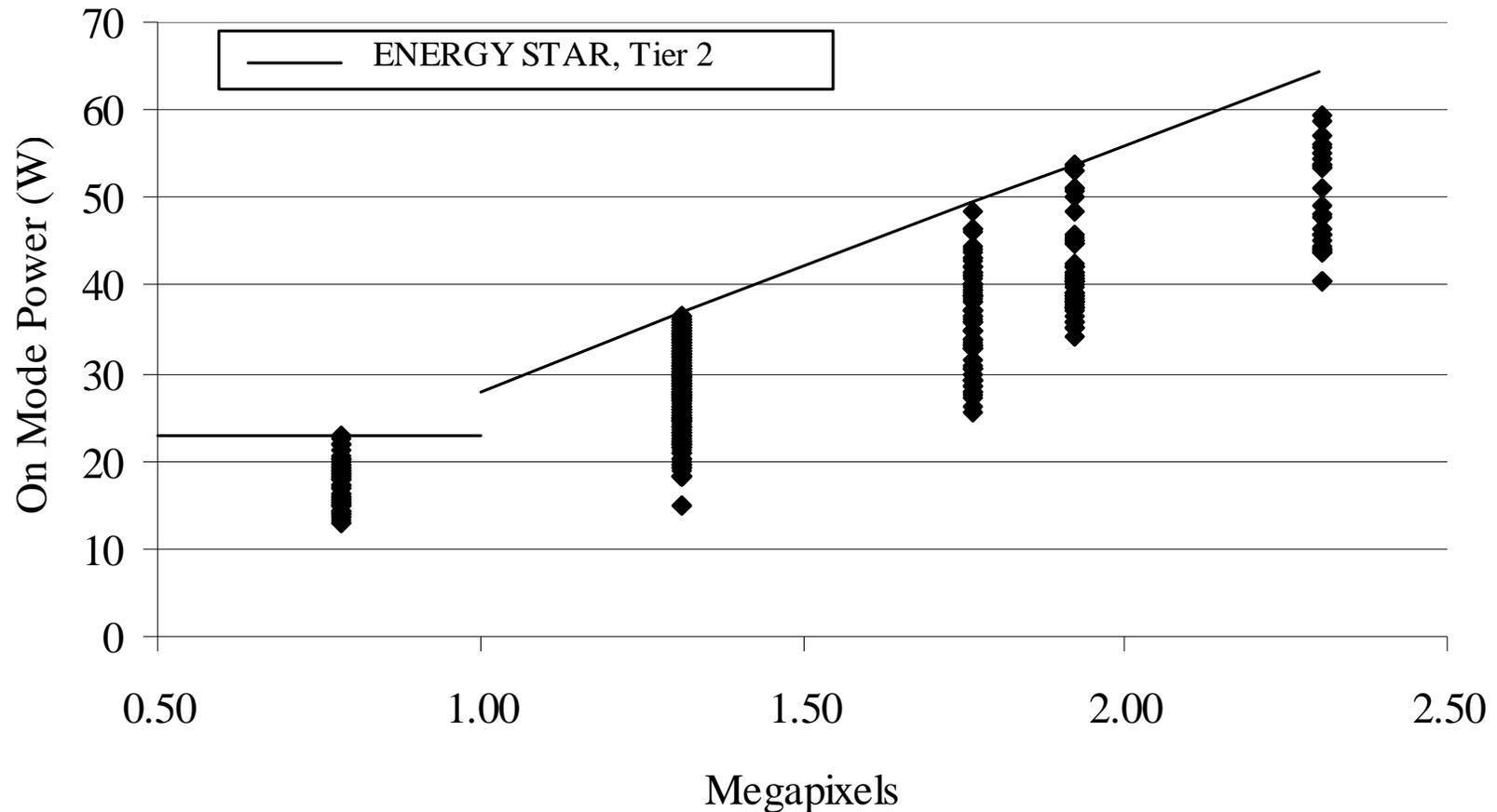
Overview of Current Specification



- Tier 2 in effect since January 1, 2006
- Includes on, sleep and off mode requirements
 - On Mode*: If $X < 1$ megapixel, then $Y = 23$; if $X \geq 1$ megapixel, then $Y = 28X$
 - Sleep Mode: ≤ 2 watts
 - Off Mode: ≤ 1 watt
- Currently 40 manufacturing partners with 1188 qualified models
 - Viewable screen sizes range from 13.8" to 30"
- Market penetration of ENERGY STAR qualified monitors estimated to be 35% in 2006

* Y is expressed in watts and rounded up to the nearest whole number; X is the number of megapixels in decimal form (e.g., 1,920,000 pixels = 1.92 megapixels)

Currently Qualified Models



ENERGY STAR Tier 2 on power consumption requirements (W)
< 1 megapixel = 23
≥1 megapixel = 28* megapixels

ENERGY STAR Monitor Scope

Professional Displays: Market Potential



- EPA is interested in including professional displays under the Version 5.0 specification
 - Professional displays have viewable screen size \geq 30"
- iSuppli projects that by 2011, worldwide shipments will increase to 22 million units
 - North America will represent 8.8 million units (40%)

ENERGY STAR Monitor Scope: Professional Displays: Discussion



- Does EPA have correct definition for professional displays?
- Do stakeholders agree that the specification should include this category?
- Is pixels/watt appropriate metric?
- Is the current test procedure applicable for measuring the power consumption of professional displays?

ENERGY STAR Monitor Scope: Digital Photo Frames: Market Potential



- Stakeholders expressed interest in a specification for digital photo frames
- IDC predicts worldwide shipments to increase to 42.3 million units by 2011
 - U.S. sales will represent over half the market
- Products always plugged in and always on
 - Represent big opportunity for savings

ENERGY STAR Monitor Scope: Digital Photo Frames: Discussion



- Do stakeholders agree that the specification should include this category?
- Is pixels/watt appropriate metric?
- Are majority of these products powered by an external power supply?
- Is the current test procedure applicable for measuring the power consumption of digital photo frames?

ENERGY STAR Monitor Scope: Other Products-Types?



- Stakeholders are invited to discuss other display product types not covered under the current specification and not addressed in the discussion guide that there is interest in reviewing during this revision

Emerging Technology Opportunities



- Increases in backlighting efficiency have benefits of:
 - Reducing power consumption
 - Producing less heat
 - Providing high quality image
 - Providing longer life

Technology Discussion



- Are there other technologies that manufacturers anticipate gaining market share in the near future?
- What are power consumption profiles of these technologies?
- Would current test procedure need to be modified for these new technologies?
 - If so, what type of modifications does industry propose?

Power Requirements: Feature-rich Displays



- Review power consumption in context of display and added energy relevant features including:
 - USB ports, tuners, speakers, audio amplifiers, sensors, optional add-in cards
 - Have we missed any?
- Opportunities
 - Address requirements of screen display vs. other product features
 - Streamline power requirements across product classes and specifications

Power Requirements: Interfaces



- Models offering multiple PC Display connectors ranging from VGA to HDMI
 - Meet ENERGY STAR requirements for all interfaces offered to consumers
 - ENERGY STAR requirements met when multiple interfaces are connected to external equipment?
 - Powering down all interface connections when not in active use?

Convergence: Performance Metric



- Review of current ENERGY STAR qualified products test data and EU study:
 - Screen size better predictor of On Mode power consumption than pixels alone
 - Do stakeholders support changing metric to screen size approach?

Convergence: Definitions



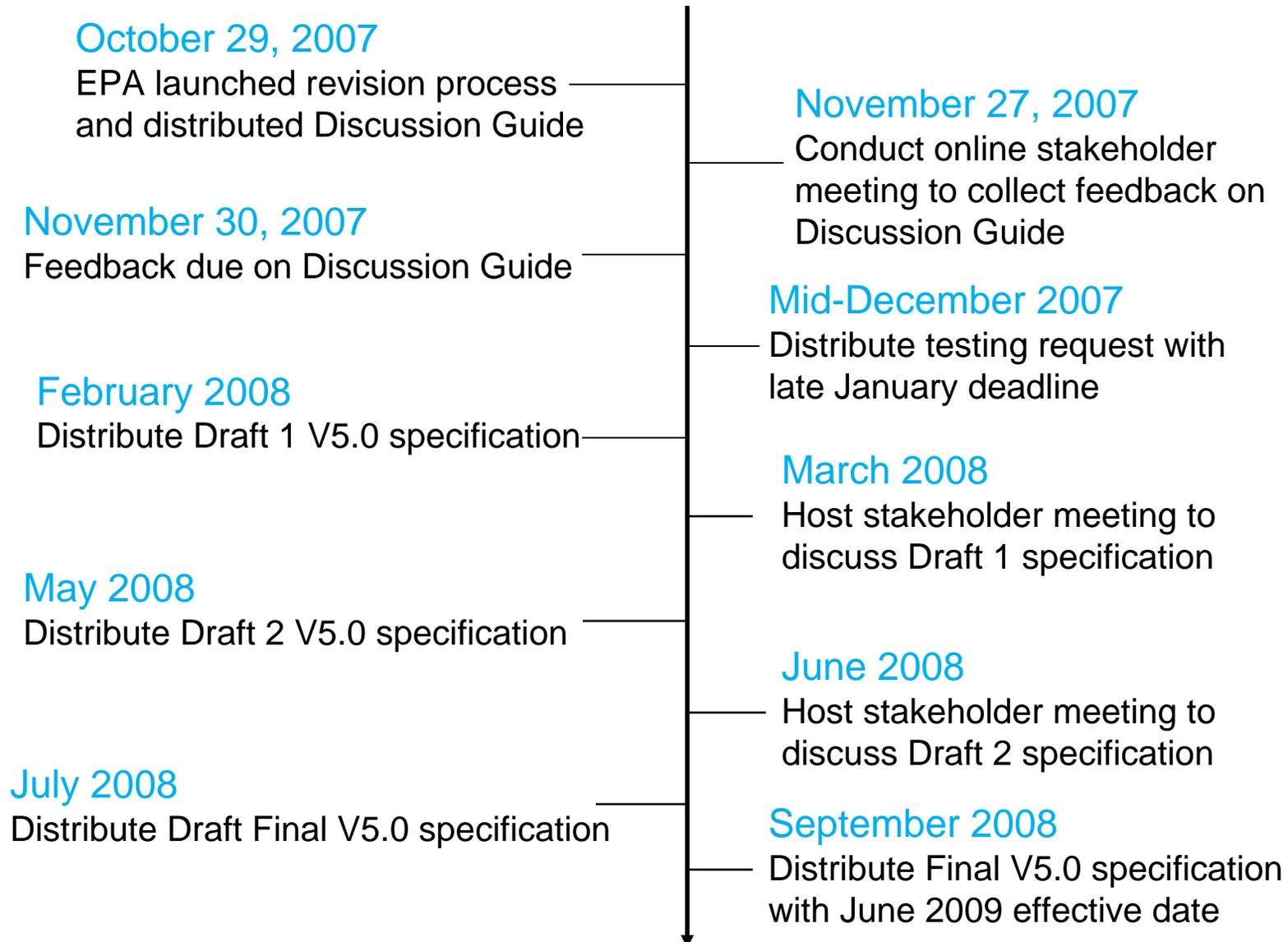
- Streamline definitions with ENERGY STAR TVs:
 - What is the market share of models in the U.S. that incorporate a hard off
 - What are the ramifications of removing the hard off mode definition, both domestically and internationally?
- Other definition changes:
 - Update the computer monitor definition to include additional connectors
- Are any additional definition updates recommended?

Testing



- Update test procedure
 - Test as shipped to consumers
 - Test using IEC 62087
- Request test data for both ENERGY STAR qualified and non-qualified models
 - Discuss means to address power requirements of energy relevant features in test sample

Anticipated Timeline for Monitor Specification Revision



Contact Information



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Thank You