



**February 8, 2018**

**To:** Ryan Fogle, EPA Manager, ENERGY STAR for IT and Data Center Products;  
John Clinger, ICF International

**Re:** ITI Comments on ENERGY STAR Computers Version 7.0 Final Draft

On behalf of the Information Technology Industry Council (ITI), we appreciate the opportunity to provide additional comments on the ENERGY STAR Computers Version 7.0 Final Draft.

We identified four (4) areas of concern with the Final Draft, detailed below.

### **1. P-Score Typo**

In the Final Draft Cover Memo, the EPA stated that it adjusted the p-score boundary between notebook category 1 and 2 to allow those products with a p-score of 8 to meet the category 2 requirements. However, Table 8 in the Final Draft Specification does not reflect this change. ITI recommends the following edits (in **blue**) to Table 8 in the Final Specification:

- Category Name 0:  $P \leq 2$
- Category Name 1 :  $2 < P < 8$
- Category Name 2 :  $P \geq 8$

### **2. As-shipped Brightness**

A new clause was introduced in section 4.2.1 of the Final Draft Specification, without industry partner consultation, requiring, *“.....that all models shipped as ENERGY STAR certified within the product family maintain the same power management settings and default display brightness settings used when testing the Representative Model(s).”* EPA added this clause based on the *“feedback stating that some ENERGY STAR certified models are being sold with default brightness settings that do not match the settings used to test the Representative Model for certification.”*

ITI strongly recommends that the EPA removes the new clause in section 4.2.1 and revert back to the Computers Version 7.0 Draft 2 language, as this change will lead to unnecessary confusion for the manufacturers and the certification bodies with no good outcome.



The observation that most ENERGY STAR certified Notebooks and Integrated Desktop computers are shipped with default brightness settings different from brightness settings used when testing the representative model is correct. This arrangement was based on EPA guidance during the Computers Version 6.0 Specification development process, when short idle testing became the requirement for Notebooks and Integrated Desktops computers (with display on). As indicated in the Final Draft Version 6.0 Computers Test Method Comment Response Summary<sup>1</sup>, EPA agreed to set base TEC limits and certification requirements based on fixed brightness at 90 nits and 150 nits for Notebooks and Integrated Desktop computers respectively. This recommendation allowed regulators to establish TEC targets based on consistent test conditions, removing variability. For compliance testing, it ensured a level playing field for all systems to be tested the same way, and at the same condition, irrespective of the factory default brightness.

There were other considerations as well. The display adder was based on screen resolution and viewable screen area, and did not scale with brightness. Further, since the testing procedure requires the computers with automatic brightness control (ABC) to disable the function during testing, the above clause will force the computers shipping with ABC to have that function disabled, with an unintended consequence of losing display power savings.

ITI members reviewed the stakeholder's comment regarding the test procedure (Reference # 25 in Comment Response Document<sup>2</sup>), and believe the recommendation is misguided. Any change to the current approach, in order to match the as-shipped brightness levels with test brightness conditions or adjust the test brightness conditions to match the as-shipped brightness conditions, would lead to major changes to the program including new data collection and revisions to the TEC targets, display adders, and compliance test procedures.

The attached Appendix gives additional context to the concern.

### **3. Base TEC limits assessment**

After EPA published the ENERGY STAR Version 7.0 Memo<sup>3</sup> with proposed limits, ITI gathered a significant amount of additional NB system data to develop a more comprehensive dataset. Our analysis of the new dataset showed that proposed limits are now cutting into normal testing and manufacturing variability. After sharing the new dataset and analytical data with the EPA, ITI proposed including a 5% margin to

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<sup>1</sup>Final Draft Version 6.0 Computers Test Method Comment Response Document. Available [here](#).

<sup>2</sup>Computers Version 7.0 Draft 2 Specification Comment Response Document. Available [here](#).

<sup>3</sup> Dated Nov 14, 2017



account for this variability in comments dated December 11, 2017 and January 17, 2018.

ITI proposes:

- Raising NB1 base TEC from 8.0 to 9.0 kWh
- Raising NB2 base TEC limit from 14 kWh to 15 kWh.

#### **4. Effective Date**

In order to avoid an undue burden on EPA's industry partners, ITI strongly urges the EPA to set January 15, 2019 as the effective date for the Computers Version 7.0 specification. The months of November and December 2018 are already inundated with U.S. holidays, large product rollouts, and new standards from other governmental authorities like the California Energy Commission.

We appreciate your consideration of our comments and welcome the opportunity to discuss further.

Sincerely,

A handwritten signature in black ink, appearing to read "Alex McBride", is positioned below the word "Sincerely,".

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**Enclosed:**  
-Appendix



## APPENDIX

### **As-shipped vs. tested display brightness for Notebooks and Integrated Desktop Computers Discussion:**

- **Background:** During ENERGY STAR v6 computers development, there was a healthy debate among the stakeholder on the right approach for short idle testing conditions including the display adders and brightness levels. At the time, and even today, the as-shipped display brightness of notebooks and integrated desktop computers vary widely.
- **TEC limits:** With the introduction of short idle in the ETEC equation for the ENERGY STAR v6 Computers development, the measured short idle power became very significant. EPA working with the stakeholders had to propose display brightness values for data collection and set the base TEC category targets. The as-shipped brightness level would have skewed the data because the bottom 25% of least brightness panels would have likely dictated the TEC limits of a category, thereby penalizing the computers with higher brightness that would otherwise be energy efficient. Further, the display adder was based on display resolution and display area and did not scale with brightness.
- **Compliance Testing Impact:** If the TEC targets were established based on as-shipped brightness, the system compliance would have been impacted as well. Systems with lower as-shipped display brightness would be at an advantage over brighter as-shipped displays for overall TEC compliance, since the measured ETEC of systems for certification would be compared with base TEC limits that favored lower brightness displays in the first place.
- **Compromise solution:** Since the display adder did not scale with brightness, and there were flaws with both establishing TEC limits and testing at as-shipped brightness levels, a recommendation was made to collect data and establish base TEC at pre-defined brightness levels that all shipping systems were able to meet. The same brightness level will used for testing for ENERGY STAR certification. This recommendation created a level playing field for all systems to be tested the same way, and at the same condition. With this approach, the manufacturers continue to ship products at their factory default brightness levels. This also allowed ABC-enabled computers to be shipped with the display power saving function turned on.
- **Summary:** In summary, the integrated computer display brightness is the only deviation where the system as-shipped conditions are different from computer certification test conditions. This has been a known fact. EPA had established all



category TEC targets with integrated displays based on pre-defined brightness levels, many years ago after months of debate and stakeholder input. Any intention to change that approach, in order to match the as-shipped brightness levels with test brightness conditions or adjust the test brightness conditions to match the as-shipped brightness conditions, will lead to major changes to the program including new data collection and revised TEC targets, display adders, and compliance test procedures.

ITI recommends that EPA delete the new clause and revert back to Draft 2 language, as this change will lead to unnecessary confusion for the manufacturers and the certification bodies with no good outcome.