

SHARP LABORATORIES OF AMERICA

Via e-mail:
televisions@energystar.gov

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United States Environmental Protection Agency
Office of Air and Radiation
Washington, D.C. 20460

Subject: ENERGY STAR Final Draft Version 6.0 Specification for Televisions

COMMENTS OF SHARP LABS OF AMERICA

SHARP is an enthusiastic ENERGY STAR Partner and is committed to building high-efficiency, environmentally advanced products that deliver top performance to our customers. The ENERGY STAR program continues to be the most effective approach for SHARP to communicate the low power consumption of our products to retailers and consumers.

On July 11th, EPA released the Final Draft of the Version 6.0 ENERGY STAR Specification for Television.

SHARP offers the following comments:

The proposed ABC approach will cause unintended consequences

The proposal to offer a fixed “adder” for ABC, rather than measuring ABC is a fundamental change in EPA’s approach to televisions since IEC 62087 was adopted as a basis for ENERGY STAR in October 2008. In 2006, IEC developed a broad consensus including industry, energy efficiency advocates, and EPA that the approach should be to measure the power consumption of televisions as expected in the home. The “adder” approach violates this consensus by measuring a worst case situation for televisions with respect to ABC.

To avoid such negative consequences, EPA should maintain the version 5.3 measurement method until we transition to the DOE approach.

The “adder” approach would have the following negative consequences:

- 1) Data gathered under version 6.0 could not be compared with data gathered from 2008 through 2012 under ENERGY STAR version 3.0 through version 5.3. The current data represents an estimate of actual, expected power draw, while the version 6.0 data would represent a worst case scenario relative to ABC. The data is also unlikely to be comparable to future data based on the upcoming DOE method. To have value, the data should continue to be based on the Version 5.3 measurement.
- 2) Manufacturers with ABC enabled would be faced with reporting one power level on a given product under version 5.3 and a much higher power level under version 6.0. It would be difficult to explain to the press and to consumers the technical difference between expected and worst case reporting. The headlines could read that “New EPA Rules Show TV Manufacturers Underreported Power Numbers.” This could lead to a potential and unintended PR nightmare.

- 3) The annual cost reported on FTC EnergyGuide labels are based on test methods from ENERGY STAR version 4.1 and 5.1. Currently, one can use the reported ENERGY STAR power numbers to calculate the annual cost to be disclosed via the EnergyGuide program. The “adder” approach would disconnect the two programs. Consumers might wonder why the ENERGY STAR power numbers shot up, but the EnergyGuide estimated cost remained unchanged.
- 4) The power numbers under the version 6.0 proposal would also not align with numbers registered in California and Canada. This could also confuse the marketplace and call industry into question.
- 5) Industry will be faced with a new measurement method from DOE, likely within a year. This will affect EPA ENERGY STAR, FTC EnergyGuide, and California concurrently. Canada is also aware of the DOE NOPR. This will hopefully create one transition, rather than two, back to back. A single, coordinated transition is the best available outcome.

SHARP’s recommendation

EPA should retain the measurement method of ENERGY STAR Version 5.3 for Televisions.

An alternative approach

SHARP appreciates that EPA wants to ensure that ABC circuits are delivering real value to consumers and that ABC is not being gamed. EPA should also strive to avoid punishing televisions with valid ABC implementations due to a temporary change in methodology. The following alternative approach could meet both goals:

Part of the version 6.0 methodology is to compare power levels at 10, 50, and 100 lux to ensure that ABC circuits provide value to consumers. By requiring at least a 5% change from 100 to 50 lux and from 50 lux to 10 lux in order to claim an ABC benefit is one way to remove the incentive for a brick-wall ABC design.

Televisions that do not have ABC enabled by default in Home Mode would continue to report their power with ABC disabled. In this alternative approach, Televisions that have ABC enabled by default in Home Mode but do not show adequate power consumption changes between 10, 50, and 100 lux would also report their power with ABC disabled.

Televisions that have ABC enabled by default and that have an ABC circuit that offers adequate savings between 10, 50, and 100 lux would continue to measure power at 0 and 300 lux with weightings of 45% and 55%, respectively. This is compatible with the measurement method in version 5.3.

This approach ensures consistency in data reporting for televisions with ABC designs that truly benefit consumers. The only televisions that would encounter a penalty are those with brick-wall ABC designs that do not provide an improvement for the consumer.

SHARP supports the TANH soft landing curve

SHARP supports the TANH soft landing curve, given that televisions with compliant ABC circuits are measured at 0 and 300 lux with 45% and 55% weightings, respectively.

ABC weightings of 45% and 55% remain appropriate

Some stakeholders have expressed concern about measuring ABC at 0 lux. This concern is unfounded. The problem was related to TVs with a brick-wall ABC implementation. If EPA culls such televisions with the 5% validation test from 100 to 50 and 50 to 10 lux, televisions with brick wall implementations would no longer be measured at 0 lux.

For TVs with a valid ABC implementation, weightings of 45% and 55%, at 0 and 300 lux respectively, remain valid. Studies by CEA and CLASP show that far more viewing is done near 0 lux than near 300 lux.

- Roughly 1/8th of TV viewing is done at 0 to 1 lux (11.6% according to CEA data and 13.1% according to CLASP data).
- 25% of viewing is done in dark conditions (Under 7.1 lux according to CEA data and under 4.6 lux according to CLASP data).
- According to CEA data, 50% of viewing is under 14.0 lux. CLASP data shows 50% of viewing is under 15.1 lux.
- According to CEA data, only 2.5% of viewing occurs at 300 lux or greater. The CLASP data shows that 1.9% of viewing occurs at 300 lux or greater.

If anything, the 45% and 55% weighting is pessimistic; however, this may be appropriate as some users will disable ABC.

SHARP appreciates the timeline

SHARP supports EPA's intention to change the specification such that it becomes effective in the second quarter of the calendar year. This helps smooth the transition from one model year to the next. SHARP also appreciates the information regarding the overall timeline.

The potential impact of the DOE test method remains unclear

SHARP remains confused about how a DOE ruling could affect ENERGY STAR qualification. It would be helpful if EPA would describe three scenarios: 1) DOE's new test method becomes effective prior to the Version 6 effective date, 2) DOE's new test procedure

becomes effective concurrent with the Version 6 effective date, and 3) DOE's new test method becomes effective after the Version 6 effective date.

This information would help reduce potential surprises due to the expected DOE test method.

The network connectivity approach is appropriate

SHARP appreciates that power consumed by televisions in standby mode when a network connection exists is not well characterized. EPA's approach regarding networking is appropriate. SHARP agrees that the connection should be established with a LAN but not a WAN. SHARP also agrees with the network connection hierarchy. We also agree that the data should be collected during version 6 such that future decisions regarding limits will be based on actual data collected.

We also note two minor editorial issues: On line 325, the date should be "2007" rather than "20072". On line 327, the date should be "2010", rather than "20103".

The definitions should reflect common usage

SHARP recommends some slight changes to the definitions of "modes" and "picture settings." Note that I, Jon Fairhurst, am the Technical Area Manager of IEC TC100 TA12 and am a project leader in IEC MT62087. I am also the chair of CEA R4 WG13 where we are updating CEA-2037. Also note that DOE is an observer in the CEA R4 WG13 meetings.

At times it is tempting to change test procedures by changing definitions, rather than the procedures themselves. This is poor practice. The best definitions a) are simple, b) reflect common usage, and c) reflect reality. As we complete IEC 62087 Ed. 4.0 and CEA-2037-A, we will strive to meet these goals. Any additional complexity, exceptions, and concatenations should be included in the method itself.

The first example is “Retail Picture Setting.” This is not the common usage. Even at the DOE meeting on March 22, 2012, attendees kept calling it “Retail Mode” as we have since the term was coined. It also does not reflect reality. When Retail Mode is selected from the forced menu, it is truly a mode, not just a picture setting. It might present different menus, eliminate adjustments, enable demo modes, and even present information about ENERGY STAR non-compliance.

The current definition of Retail Picture Setting is “The preset picture setting in which the TV produces the highest luminance during the On Mode conditions.” This definition simply has nothing to do with “retail”. And by redefining Retail Mode or Retail Picture Setting in such a way, what are we left with to call the Retail Mode as selected from the forced menu?

Using plain English, one could define the term Brightest Picture Setting with the above definition. This would be simple, reflect common usage, and reflect reality.

Also, note that the current definition of Retail Picture Setting makes little sense in the context of section 3.2.3. This section defines forced menu selections, not highest luminance settings. Further, when Retail Picture Setting is used on line 220, the description includes “(or brightest-selectable)”, since the phrase and definitions are mismatched.

SHARP recommends the following definitions:

Retail Mode: “The forced menu selection intended for the retail environment.”

Home Mode: “The forced menu selection intended for the home environment.”

Brightest Picture Setting: “The user-selectable preset picture setting in which the TV produces the highest luminance during the On Mode

conditions. For a television with a forced menu, this might be the default setting in Retail Mode or a user-selectable preset picture setting in Home Mode.

Home Picture Setting: For televisions without a forced menu, this is the default picture setting. For televisions with a forced menu this is the default picture setting in Home Mode.

The above definitions are simple, reflect common usage, and reflect reality. They allow the text in section 3.2.3 to clearly refer to the Home and Retail Modes, while the test procedure can clearly refer to the Brightest and Home Picture Settings.

Picture settings that meet ENERGY STAR criteria should not need a message

SHARP is concerned that showing ENERGY STAR related messages upon changing user selectable picture settings will give consumers a negative impression of both SHARP and ENERGY STAR. The requirement for such messages should be minimized or removed.

If such messages are required, SHARP does not agree with the proposal that all picture settings other than the Home Picture Setting should be indicated as non-compliant with ENERGY STAR. It is possible that a television might have a “Cinema”, “Nighttime”, or “Eco” picture setting that could be within the ENERGY STAR limits. Such picture settings might even have lower consumption than the Home Picture Setting. No user selectable picture setting that meets ENERGY STAR limits should include a message of non-compliance.

Conclusion

SHARP strongly supports the ENERGY STAR program and believes that it is best served by

- Retaining the 5.3 measurement method

- Possibly validating ABC circuits with the 5% 100 to 50 and 50 to 10 lux test
- Maintaining the TANH curve
- Maintaining the 45% and 55% weighting
- Maintaining the effective date in the 2nd quarter of the calendar year
- Outlining three scenarios for the timing of the expected DOE Report and Order
- Going forward with the proposed network connectivity approach
- Updating the definitions to reflect common usage
- Avoiding the requirement to show a message when the user selects other picture settings. At a minimum, picture settings that meet the ENERGY STAR criteria should not be required to show such a message

We hope that EPA strongly considers SHARPs comments as we work together to create an effective, accurate, and efficient next version of the ENERGY STAR program for televisions.

Respectfully submitted,

SHARP LABORATORIES OF AMERICA

By:  _____

Jon Fairhurst
Manager, CE Standards
Consumer Systems & Technologies

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