NRDC Comments on ENERGY STAR's May 16, 2012 Proposal for Addressing Automatic Brightness Control in Version 6.0 for Televisions

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On behalf of the Natural Resources Defense Council (NRDC) and its 1.3 million members and on line activists, we submit our comments on the EPA's May 16, 2012 proposal for measuring power use of TVs that are shipped with the Automatic Brightness Control (ABC) feature enabled. While we remain fully supportive of EPA's proposed on mode power limits and recognize the logistical and timing challenges EPA is faced with due to the absence of a final test procedure by DOE, we have concerns with some aspects of how ABC is treated in EPA's proposal. Below we provide some additional background on this topic along with a description of our concerns and some recommendations to improve EPA's ABC proposal.

Background - TVs with automatic brightness control (ABC) include a sensor that measures the room light levels and automatically adjusts the brightness of the TV screen. TVs that properly implement ABC would recognize low room lighting conditions, reduce the screen brightness and thereby reduce the amount of power consumed by the TV's backlights. Similarly when the room is bright, the TV would be brighter and consume more power.

As we commented previously, the prior testing of power use of TVs with ABC enabled at 0 and 300 nits and applying a weighting of 45% and 55% to calculate the TV's reported on mode power use was flawed. The 0 nits testing condition was unrealistic as no one watches TV in a completely pitch black room and this enabled manufacturers to have an extremely steep drop off in picture brightness and power levels at that condition. As a result, manufacturers who took advantage of this were able to produce extremely dim pictures, and report artificially low power levels without much risk of disappointing customers since they were unlikely to experience such low light viewing conditions.

We understand DOE is aware of these issues and is in the process of developing an updated methodology for testing and reporting power use of TVs with ABC enabled. It would include new testing points that would minimize gaming.

Rather than wait for DOE's completion of its test method, EPA has as we understand it, made the following proposal to address TVs that are shipped with ABC enabled:

> *1. Test with ABC disabled*
>
> *2. Apply a 1.1 (10% adder) factor to on mode power use limits. For example, TVs shipped with APD enabled that were subject to a limit of 100W in EPA's original proposal would be qualified under the new proposal provided their measured power does not exceed 110W when tested with APD disabled.*
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> *3. Models that initially qualify for ESTAR Version 6 would remain qualified after the DOE test method is in effect without having to retest.*

Below are our concerns with the above approach along with recommendations to improve ENERGY STAR's proposal for TVs with ABC.

a. Need to prevent "dummy" sensor from being allowed to earn the ABC power credit

NRDC's biggest concern under this new proposal is that a TV could claim to be shipped with Automatic Brightness Control (ABC) which merely has a 5 cent piece of plastic on the front that is meant to look like an actual sensor. This non functioning ABC "sensor" would not have any impact on TV power use and the manufacturer has "earned" an extra 10% power credit essentially for free. This scenario would result in lost energy savings and provide an unfair competitive advantage against those manufacturers who have taken the time and expense to properly design and install the necessary hardware and software into a TV with ABC.

To prevent this type of gaming and lost energy savings from occurring, we recommend EPA add testing requirements to its off the shelf verification program that would require both: 1) Power measurement with ABC disabled, and 2) Power measurement with ABC enabled with testing at some point in the range between 20 and 50 nits. In order to maintain eligibility for the 10% power credit for ABC, the power measurement at 20 to 50 nits would need to be at least 5% lower than the measurement with ABC disabled. This would confirm that ABC is performing its intended effect. If the model fails this test, the model would be removed from the ENERGY STAR list of qualified models and this would trigger sampling of additional models produced by that manufacturer.

(Note, EPA should stipulate a range of testing conditions (e.g. 20 to 50 nits) for verification testing rather than a single discrete value, say 24 nits. This will prevent a manufacturer from creating a special "testing" mode whereby the TV would create low screen brightness and power levels specifically for when testing is occurring).

b. Add specific language to the final specification regarding set up conditions for ABC.

We agree with EPA's requirement that the ABC feature must be shipped enabled in order to be treated as having ABC and recommend addition of some clarifying language. For example, in order to earn this credit, manufacturers shall not be allowed to include in the initial set up process options regarding turning on or off the ABC feature. (e.g. users may not be presented during set up with the option to opt out, nor must they be required to opt in). Similarly manufacturers may not automatically disable this feature or prompt the user to disable it at a later time. *Manufacturers may, however, include in their user selected menus, the option for a user to alter or disable the ABC feature at a later time.*

c. ***Continue to apply the home and brightest settings set up language and require the 65% minimum luminance ratio***

EPA currently requires a TV to be tested with out of the box settings if the user is not presented a choice during the set up/installation. If presented with the choice to pick home/standard during the set up screen, then the test is done at that condition and power and screen luminance measurements are made in both the home/standard and the brightest settings, and the measured luminance when in home mode must be at least 65% of the measured luminance of the TV in its brightest setting. NRDC recommends these requirements be applied to TVs that are shipped with ABC enabled. Per the EPA proposal, the tester would select home mode and disable ABC before performing the power or luminance measurement. The tester would then go into the menu and select the brightest preset option and measure the luminance.

EPA should review the relevant sections in its final draft to make sure these set up and testing requirements are sufficiently clear.

d. Establish a specific end date for Version 6.0 to allow for a transition to the new DOE test method.

Per EPA's proposal, manufacturers would be allowed to continue to test their TVs with ABC disabled and earn the 10% power credit, and not have to retest even after DOE publishes its final test method. While we are not recommending EPA require all models to immediately retest once the DOE test method is finalized due to the market confusion and disruption that could be involved, we think EPA should establish a fixed duration for Version 6.0 that would have an effective date of no more than 2 years.

This would limit the amount of time the "grandfathering" would be in effect and minimize potential lost energy savings that would be occurring due to potentially overly generous treatment of TVs with flawed ABC implementations.

EPA would reserve the right to either create an ENERGY STAR version 6.1 that merely adopts the DOE test method without changing the power levels, or to create a new version 7.0 that also includes revised power levels. In either case, new models would need to be tested per the new test method and meet the latest requirements (e.g. products qualified under version 6.0 would no longer be grandfathered).