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SMART Technologies comments on Signage Displays

See attached document.

Additional submitted attachment is included below.

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SMART Technologies Comments on CEC Appliance Efficiency Rulemaking for Computers, Computer Monitors and Signage Displays

2016 Appliance Efficiency Rulemaking

Docket Number 16-AAER-2

October 24, 2016

Submitted by:
John Hogg, SMART Technologies

SMART Technologies strongly supports the California Energy Commission's (CEC's) Appliance Efficiency Rulemaking for Computers, Computer Monitors and Signage Displays. The intent and overall approach are solid and the legislation will make a very real contribution to achieving the state's carbon reduction goals.

That said, minor changes to the text could potentially reduce energy consumption while making proper allowance for unique features.

Some background on signage displays may be helpful. Under ENERGY STAR® for Displays 7.0, this category covers information displays in airports and kiosks in malls. It also covers large interactive flat panels (IFPs) used in classrooms and conference rooms. These differ from televisions in several significant ways.

First, signage displays are usually brighter than home televisions. Televisions are frequently used in darkened rooms. Airports, malls, classrooms and boardrooms are much brighter and the display must also be brighter to be visible. An IFP luminance of 300 nits (candela/m^2) is common.

With respect to On consumption, SMART commends the CEC for its simple On power equation that is a direct function of the area. We observe, though, that IFPs with a 300 nit luminance can meet the numbers.

Therefore, there may be an opportunity to reduce the allowed maximum for dimmer televisions. This could be done by adding luminance into the maximum calculation as is done by ENERGY STAR.

Second, IFP use is centered around touch. The touch circuitry requires much less power than the display but it is not zero. The current draft allows 1W for computer monitors, but nothing for signage displays which require significantly more power for touch because of their much larger size.

For consistency, if there is an On touch allowance for computer monitors, there should be one for signage displays. That said, the basic On power mode is achievable without the allowance.

Third, IFPs may be networked and may have wake-on-touch or wake-on-proximity technology.

ENERGY STAR for Displays 7.0 recognizes the differences between televisions, monitors and signage displays and provides the following adders for Sleep (Standby) mode:

Adder	**Amount**
Base	0.5W
Touch functionality (wake on touch)	1.5W
Occupancy sensor (wake on proximity)	0.3W
Full network connectivity	3.0W

By contrast, the current draft allows 3.0W in Standby-passive mode.

The first large (>61") interactive flat panel signage displays to be certified under ENERGY STAR for Displays 7.0 are SMART Technologies', so we deeply understand what is required to achieve certification. In our experience, 3.0W is very generous—perhaps overly generous—for a display without the listed adders, although achievable with both wake on touch and wake on proximity. An IFP with all three adders would be allowed 5.3W under ENERGY STAR, which only the top ~20% of products are expected to win. It is difficult to see how every IFP can be expected to draw at 57% of this best-in-class power in Standby.

To properly reflect functionality, the base Standby-passive allowance should be reduced (perhaps to 1W) and adders for the functionalities listed above should be incorporated.

The NRDC has made some good observations about stacking adders for monitors, but those comments don't apply to the above table—each functionality really does require the power listed above.

SMART appreciates this opportunity to provide feedback. We hope that our practical experience with certifying the first large interactive flat panels under ENERGY STAR will help CEC adopt standards that are both stringent and achievable.

Respectfully submitted,

John Hogg
Environmental Compliance
SMART Technologies