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May 23, 2016

E-filed

Commissioner Andrew McAllister
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Re: **Docket No. 14-AAER-2**
2015 Appliance Efficiency Pre-Rulemaking:
Computers, Computer Monitors, and Signage Displays
Comments of the Entertainment Software Association

Dear Commissioner McAllister:

Thank you for your leadership in bringing together stakeholders to discuss the important issue of improved energy efficiency for appliances in California homes. The video game industry appreciates the opportunity to contribute to this critical discussion.

The Entertainment Software Association represents publishers of video games for computers, game consoles, handhelds, mobile devices, and the Internet as well as makers of game consoles. As you may know, game development is an important business in California. It directly employs over 10,000 people across the state and contributes nearly \$2.8 billion annually to the state's economy.¹

We found the recent workshop useful, both in helping us to better understand the considerations behind the revised PC standard and the viewpoints of other stakeholders. We direct our comments to two issues: the potential impact on PC games and revisions to the definition of "game console."

1. Sufficient "adders" are key to preserving the PC as a viable platform for high-end games

Computers are an important platform for enjoying games. In fact, among those who play video games the most, more play on a PC (62 percent) than on any other platform.² Many of the most popular PC games are what we refer to in the industry as "AAA" games—games with top-notch production values and stunning graphics that push verisimilitude and interactivity to new levels. Publishers design these games to exploit the advantages of robust graphics cards, abundant RAM, advanced CPUs, and speedy broadband to create a game experience that's captivating, unique, and fluid. Because of the interactive nature of games, it's critical that the gamer have a system that can render polygons fast enough to create the illusion of racing a McLaren F1 in Abu Dhabi or tumbling down a ravine chased by machete-

¹ See *Video Games in the 21st Century: The 2014 Report (California)*, Entertainment Software Association (Nov. 2014), available at <http://www.theesa.com/wp-content/uploads/2014/11/California.pdf>.

² See *2015 Essential Facts About the Computer and Video Game Industry*, Entertainment Software Association, at 7 (Mar. 2015), available at <http://www.theesa.com/wp-content/uploads/2015/04/ESA-Essential-Facts-2015.pdf>.

wielding skeletons. In short, blockbuster games often require high-end PCs to provide an optimal experience.³

If the CEC were to implement the currently proposed power caps, without meaningful allowances for gaming and other specialty applications, it could make PCs a much less attractive platform for future game development. This would hurt not only the video game publishing business, which is substantial in California, but also frustrate gamers who can no longer buy the systems to play the games they want.

For these reasons, we support the inclusion of sufficient adders for components, such as graphics cards and RAM, that are essential to playing AAA games on a PC. ESA does not represent PC makers and lacks the technical expertise to comment on the adequacy of the particular formulas and thresholds that the CEC has proposed.⁴ We urge the Commission to consider the input of ITI and TechNet (and others from industry with technical expertise in this area) to assess their adequacy.⁵

We recognize that the CEC is trying to balance many considerations and that further gains in efficiency are critical. However, we ask that the Commission not calibrate the standard so severely that it cripples the PC as a viable platform for AAA games.

2. *The definition of “game console” should be revised to more accurately reflect the marketplace*

We support the CEC’s decision to exclude “game consoles” from the current draft standard for PCs. This makes good sense, given the different energy efficiency characteristics and usage patterns for the respective devices. For purposes of excluding game consoles from the proposed PC standard, the CEC Staff proposes to define the term this way:

“Game console” means a device that is designed and marketed for video game usage and that does not have the ability to expand volatile memory.

Unfortunately, the definition could exclude inadvertently some game consoles. It’s generally the case that game consoles have a locked hardware platform. However, it’s not a firm rule, and we don’t know what the design needs will be from generation to generation. In the past, some console makers have enabled gamers to upgrade some components of their systems post-sale, including expanding volatile memory. These minor upgrades do nothing to alter the essential nature of the device but, under the proposed definition, such upgrades could jettison the device from the exclusion.

³ Not all PC games require advanced systems. Some types of games, such as casual games, perform acceptably on modestly configured systems. Many others, though, require high-end graphics cards and other hardware to perform well. But if the only PCs available to consumers were those capped at modest power levels, software publishers catering to the consumer segment would no longer be able to capitalize on breakthrough chipsets to offer consumers a more captivating experience, at least not until more energy efficient versions became available.

⁴ It is our understanding, though, that hardware makers are indeed making progress on improved efficiency. For example, NVIDIA, a maker of high-end graphics cards and GPUs used in gaming PCs, will soon release its GeForce GTX 1080 graphics card. That card has an improved graphics performance of 52 percent relative to the prior generation card but uses roughly the same amount of power as the prior generation. See Jason Evangelho, *Nvidia GeForce GTX 1080 Review: Hail to the King*, FORBES (May 17, 2016), <http://www.forbes.com/sites/jasonevangelho/2016/05/17/nvidia-geforce-gtx-1080-review-hail-to-the-king/#52f101f55119>.

⁵ As an alternative to adders, we’d also support a well-tailored exclusion for gaming PCs.

To remedy that problem, we propose the following as an alternative definition:

A Game Console is a computing device whose primary function is to play video games. Games Consoles share many of the hardware architecture features and components found in general personal computers (e.g., central processing unit(s), system memory, video architecture, optical drives and/or hard drives or other forms of internal memory). Game Consoles have these characteristics:

- Utilize either dedicated handheld or other interactive controllers designed to enable game playing (rather than the mouse and keyboard used by personal computers); and
- Are equipped with audio visual outputs for use with external televisions as the primary display; and
- Feature a user interface customized for gaming applications; and
- May include other secondary features such as an optical disk player, digital video and picture viewing, digital music playback, etc.
- Are mains powered devices that use more than 20 Watts in Active Game mode with either internal or dedicated external power supply units.

This definition is a more accurate description of a modern game console. It tracks the definition adopted by EU regulators in approving console makers' self-regulatory initiative (SRI) on energy efficiency,⁶ with one minor difference. For the third bullet, the EU definition reads "[u]ses dedicated console operating systems," which we've replaced here with "feature a user interface customized for gaming applications." Since the time when the European Commission approved the SRI in the spring of 2015, consoles have continued to evolve. Some console systems may share a common kernel with a PC operating system but employ a graphical user interface that looks different than that of a PC and is customized for game consoles.

Adopting a less precise definition here could create inconsistencies between California and the EU over what constitutes a game console and, as a result, which devices are subject to which energy efficiency requirements. We think it's in everyone's interest to have a consistent definition of a product category.

⁶ See *Commission Recognises Voluntary Energy Efficiency Agreement for Game Consoles*, Statement of European Commission (Apr. 22, 2015), available at http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=8239&lang=en&tpa_id=0&title=Commission-recognises-voluntary-energy-efficiency-agreement-for-game-consoles (linking to the Commission's report and the SRI).

Thank you for your consideration, and please let us know if we can provide you and your team any further information.

Sincerely,

A handwritten signature in blue ink that reads "Michael Warnecke". The signature is fluid and cursive, with the first name "Michael" and last name "Warnecke" clearly legible.

Michael Warnecke
Chief Counsel, Tech Policy
Entertainment Software Association

cc: docket@energy.ca.gov
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