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**Entertainment Software Association Comments on Low Power
Mode Data Collection Procedure and August 25, 2021 Workshop
Discussion**

Additional submitted attachment is included below.



October 11, 2021

California Energy Commission
Docket Unit, MS-4
Docket No. 17-AAER-12
715 P Street
Sacramento, California 95814

Sent via E-Mail

Re: Entertainment Software Association: Comments on the Low Power Mode Data Collection Procedure Questions and the August 25, 2021 Staff Workshop Discussion on the Low Power Mode Roadmap (17-AAER-12)

The Entertainment Software Association (“ESA”) provides the following comments for consideration by the California Energy Commission (the “CEC”) on the Data Collection Procedures (“DCP”) proposed to assist in developing the Low Power Mode (“LPM”) Roadmap (Doc. No. 17-AAER-12).

ESA is the U.S. trade association representing the publishers of computer and video games played on consoles, personal computers, mobile devices, and the internet. In California, the video game industry is well represented and is an exceptional contributor to California’s economy with hundreds of video game industry companies located in the state. The video game industry in California generates \$51.8 billion in annual economic output, either through direct industry output (\$22.5 billion) or via other participants in the video game ecosystem, such as suppliers and other supported output (\$29.3 billion). This positive economic impact ranks the State of California first nationally, by far, in economic output. The video game industry accounts for about 218,100 jobs in California, either directly through industry jobs (about 57,400) or through supplier and other supported jobs (about 160,700), again, more than any other state. Overall, the U.S. video game industry’s annual economic output is \$90.3 billion and accounts for nearly 429,000 jobs.¹

ESA supports the Energy Commission’s efforts to assess and improve energy efficiency for consumer electronics sold in California. ESA members appreciate the role they have to play in improving the energy efficiency of video game consoles and have actively engaged in efforts

¹ Report: California Ranks #1 in Nation for Economic Impact from Video Game Industry With \$51.8 Billion Annual Output: See <https://www.prnewswire.com/news-releases/report-california-ranks-1-in-nation-for-economic-impact-from-video-game-industry-with-51-8-billion-annual-output-301186182.html>.

to self-regulate and measure game console energy use globally. In particular, the three major console developers (PlayStation, Xbox, and Nintendo) have for nearly a decade carried out a voluntary agreement, called the Self-Regulatory Initiative (“SRI”), that sets energy and resource efficiency requirements for game consoles placed on the market within European Union countries.² The SRI has been updated multiple times since the inception of the voluntary agreement. The signatories are also working on revising the SRI to extend its energy efficiency measures to the United Kingdom. ESA continues to believe these international efforts reflect the global nature of the video game industry. International standardization efforts provide valuable guidance to the Commission in these endeavors.

In these comments, ESA is focused, primarily, on the data collection procedures as they would apply to video game consoles. In this respect, ESA is concerned that the classification of units under test (“UUT”) into the proposed four broad categories may result in certain inefficiencies and an inaccurate accounting of the energy use of multifunction video game consoles.³ The various proposals for new defined terms to measure functions other than the “primary” game console functions may generate unnecessary and unwarranted confusion for an industry that has already achieved accepted levels of energy efficiency standardization through international self-regulation. Moreover, without a careful delineation of terms and a better understanding of modern video game consoles’ varied technical specifications and operations, the test procedures discussed at the August 25th LPM Roadmap workshop may not accurately reflect the energy use of these devices in their various low power states.

Accordingly, ESA provides the following comments on some of the more relevant questions presented by CEC staff as they relate to video game consoles. The definitional difficulties coupled with the international nature of the video game console market presents some unique challenges in this regulatory proceeding. Accordingly, for the reasons stated below, ESA recommends that the Commission create a new clustered horizontal grouping for video game consoles.

A. CASE Team Question 6 --- Other Feedback: Other Suggestions for How to Improve the DCP, with CEC’s Stated Goals.

1. The Unique Multi-functionality of Game Consoles Require Game Consoles to Comprise Their Own Clustered Horizontal Category

Based on the discussion and materials at the August 25th workshop, ESA understands that the Energy Commission is proposing a “clustered horizontal” framework, in which it would

² See, e.g., Energy Efficiency of Games Consoles: Self-Regulatory Initiative to further improve the energy efficiency of Games Consoles, V. 4.0, March 5, 2021, available at: <https://www.efficientgaming.info/eu/documents.html>.

³ ESA is referring to the product types listed by the California Investor-Owned Utilities’ Codes and Standards Team, which include network equipment, integrated network device, network-connected device, and non-network device.

group products with similar baseline power consumption in their “inactive states.” The to-be-developed definition of “inactive states” and the applicability of that definition to video game consoles is foundationally critical. The LPM Roadmap proposal would then establish a baseline power draw for each horizontal grouping and establish power adders for identified “secondary functions,” which of course is dependent on the definition of “primary functions.” There is a potential for circularity among these definitions.

During this workshop, the investor-owned utilities’ Codes and Standards Enhancement Team (“CASE Team”) identified four categories of devices covered by the proposed DCP: Network Equipment, Integrated Network Device, Network-Connected Device, and Non-Network Device. ESA has two primary concerns regarding these facets of the DCP.

Video game consoles’ product purpose and characteristics do not fit squarely into another group of consumer electronics that are under the scope of the LPM Roadmap. They are computing devices whose primary purpose is to provide consumer entertainment at every level. Modern consoles often include a variety of key features that are considered primary functions of other products, including, but not limited to, (1) integration of an optical disc player, (2) digital video and picture viewing functions, (3) digital music playback, and (4) other media playback capabilities.

Additionally, within the product category of video game consoles, there are multiple types of features and consumer options, which argues strongly for making them their own clustered horizontal category. Video game consoles of different generations may include the following capabilities:

1. *Visual Displays.* Some consoles can render video output with resolutions greater or equal to 8K (7680 x 4320 lines)(“8K Definition”). Others are capable of rendering video output with resolutions greater or equal to 4K (3840 pixels x 2160 lines)(“Ultra-High Definition”). And, virtually all new consoles can support video output with resolutions of less than 720p (1280 pixels and 720 lines) or 1080i (1920 pixels x 1080 lines)(“Standard Definition”)
2. *User Interfaces.* Some consoles may be built with functionality that allows players to interact with the device without the need for a game pad, external controller or other external device. They use sensing and recognition of physical gestures, touch, and/or voice commands.
3. *Digital-only.* Some consoles are now manufactured in a “digital-only” version that do not contain an optical disc drive (“ODD”) and only play games downloaded from online platforms. These versions are less expensive than those with an ODD.

Game consoles’ unique set of technical permutations and operational modes do not allow them to fit squarely into the proposed “primary function” and “inactive function” states. Game consoles may be engaged in active gaming, media playback, static display (such as a menu display), or one of many alternative low power states. Considering the unique functions and capabilities of video game consoles, for purposes of the LPM Roadmaps’ clustered horizontal grouping, they should be grouped independently from other products.

In addition, the four product categories identified by the CASE Team for DCP testing present certain challenges. Upon review of the CASE Team and CEC staff presentations, it is unclear whether the CASE Team's four categories of devices for DCP test measures are also intended to be the same as those horizontally grouped products whose baseline and power adders could be aggregated and targeted for LPM consumption limits. In either case, video game consoles are much more complex than the four categories identified during the August 25th workshop by the CASE Team.⁴ Again, due to their multi-functionality, the Energy Commission should keep game consoles separate from other broad descriptions of networked devices. Accordingly, ESA recommends that the Commission make video game consoles their own clustered horizontal grouping.

2. Data Collection Procedure Tests Should Be Simple and Capable of Being Recreated by Game Console Companies

ESA acknowledges and appreciates the enormity of the task of testing the power consumption of a broad range of consumer electronics. ESA supports the Commission in its efforts to collect LPM data and looks forward to open and transparent engagement with the Commission on the electricity consumption of video game consoles in their alternative low power states. In furtherance of this cooperative effort, ESA encourages the Commission staff and CASE Team to keep test configurations as simple as possible at the start of this data collection process.

Of particular concern to ESA is the potential "suite of tests" that could be performed on the UUT in different setup configurations. These seemingly open-ended LPM testing possibilities are discussed in the Data Collection Procedure process under part eight of the CASE Team's "Data Collection Procedure for Inactive State Power" paper.⁵ Prior to engaging in the additional tests considered by the CASE Team in its DCP paper, ESA encourages the CASE Team to perform a simple LPM test on identified video game console models under conditions that can be clearly reported and easily repeated. The results of this initial testing will provide a broad picture of the power draw of the devices in a specific low power state.

ESA members anticipate conducting their own LPM tests based on the tests conducted by the CASE team to ensure results can be reproduced, and to aid in understanding the test results in the context of the Commission's chosen testing factors. The more complicated the testing, then the greater potential for inconsistency in the testing variables, and the less likely the LPM test results will be capable of reproduction by console participants. Thus, as the UUT test configurations multiply, the less useful the results will be to console manufacturers.

⁴ California Investor Owned Utilities Comments – LPM DCP Workshop Presentation, Aug. 24, 2021, TN # 239452, at pdf p. 16.

⁵ California Investor Owned Utilities Comments - Cover Letter and Data Collection Procedure, May 14, 2021, TN # 237807, pp. 16-18.

Upon completion of a simple LPM test for video game consoles with clear and straightforward steps and conditions, ESA suggests that the Commission provide an opportunity for feedback and the possibility of subsequent LPM tests based on such feedback.

B. CASE Team Question 1 --- Name of the Test State: Is there a Better Name than “DCP” Inactive State?

Video game consoles have multiple low power states distinct from the products’ main functions. These include off, standby, networked standby, and other conditions. These consoles can enter these states by user command or the console can initiate an automatic power down after a period of user inactivity. Consoles may also exit a low power mode without the user’s prompt in order to execute a maintenance activity, such as a firmware update.

Considering the multiple possible states outside of the video game console’s main functions, the term “inactive state” is an oversimplified term and condition. ESA suggests that the LPM Roadmap consider the term “**alternative low power states**,” as the defined term encompassing the various conditions that exist outside of active user engagement with the device.

C. CASE Team Question 2 --- Definition of Primary Function(s): For Which Products Would Identifying Primary Function(s) be Ambiguous? Can the Definition of Primary Function be Improved to Reduce Ambiguity?

As discussed above, a video game consoles’ primary purpose is to provide consumer entertainment at every level, including through video game play. Current console models provide consumers with features that allow them to use the device to stream video and audio content from popular online services. Some consoles may preempt the need to purchase other consumer devices, such as a Blu-Ray player or dedicated streaming device hardware, thus mitigating the energy use associated with such devices. In the aggregate, these dual or multifunction uses may increase usage on one device (in this case the game console) but they decrease the users’ overall energy consumption by cutting out the need for extraneous devices. Video game console makers consider these features secondary to game play; however, unlike the proposed terminology for the DCP, these functions are not considered to exist in any “inactive” or alternative low power state as they are adding value for the consumer and potentially avoiding the energy use associated with other devices not engaged.

Instead of “primary function(s),” ESA suggests the use of the term “**major function(s)**” to encompass the multiple active and necessary states of a video game console. Such major functions include video game play and media playback, and consumer-initiated or console-initiated firmware or game software updates.

Especially where the term “primary function(s)” is kept, ESA suggests that the LPM Roadmap use a term besides “secondary functions,” for the purpose of identifying “adders” to a product’s baseline power draw in a low power state. A product may have features that are

additional or ancillary to the primary purpose of the device, yet these functions are not activated in a low power state. For video game consoles, these features include types of media playback, such as operation of a Blue-ray disc and online media streaming capability. Where the term “primary function(s)” is used, the phrase “secondary function(s)” is confusing as it is not clearly descriptive of only low power mode functions. As such, ESA suggests the term “Low Power Mode functions” or “**LPM functions**” to describe the features that comprise the power adds to low power mode baseline consumption.

D. CASE Team Question 4 --- State of Additional Products During Inactive State Test: In What Situation Might the DCP Need to Prescribe the State of Products that Must be Attached for the UUT to Operate but Do Not Ship With the UUT?

Video game consoles manufactured by ESA members generally ship with all necessary peripherals required for testing of alternative low power states. This includes the game console hardware, video game controllers, and external network and power cables. For game consoles, the additional products that need to be attached to the tested game console are shipped with the UUT. Where the console has the capability to use a wired connection, then a wired connection should be used in testing, and Wi-Fi should only be used for those products that do not have wired capability.

Conclusion

ESA appreciates this opportunity to provide these comments on the Data Collection Procedures supporting the CEC’s LPM Roadmap proceeding. ESA encourages the CEC to carefully craft the categories of horizontally clustered products. This is particularly true for video game consoles that are computing devices that support various methods of user interactive game play and entertainment, and for which there is no similarly situated category of consumer electronics in the scope of the LPM Roadmap. As discussed above, ESA recommends that the Commission create a new clustered horizontal grouping for video game consoles. ESA also finds certain defined terms proposed to be potentially vague and misleading when applied to multifunctional consoles, and has provided suggestions for new names herein. ESA looks forward to further engagement and discussion with the Energy Commission and CASE Team on these issues.

Sincerely,



Ben Golant
Chief Counsel for Intellectual Property and Legal Policy
Entertainment Software Association