Mr. Harinder Singh
California Energy Commission
Dockets Office, MS-4
Re: Docket No. 14-AAER-2
1516 Ninth Street
Sacramento, CA 95814-5512

May 29, 2015

Mr. Singh,

Northeast Energy Efficiency Partnerships (NEEP) is a regional energy efficiency organization working in the Northeast and Mid-Atlantic United States. NEEP appreciates the opportunity to provide comments to the California Energy Commission (CEC) on the Appliance Efficiency Pre-Rulemaking for computers, computer monitors, and signage displays, Docket No. 14-AAER-2. NEEP is monitoring this rulemaking as the steps taken in California to set efficiency standards for these products will have implications for the rest of the nation and may ultimately impact these products in the Northeast. CEC standards have resulted in significant improvements in the efficiency of several products over the years and the standards have been implemented very successfully. NEEP applauds the CEC on their national leadership in standards, especially for some of the plug load and electronic categories that can be particularly hard to regulate. Overall, the standards proposed by the CEC seem to be technically feasible and cost-effective. NEEP supports the CEC in their efforts to develop computer, computer monitor, and signage display standards and respectfully submit the following specific comments.

Computer Standards: NEEP Strongly Supports

Considering the US Department of Energy's standards process for computers is in the very early stages, NEEP is excited for the timing of California's computer standard. In review of the staff report, the draft standards are a helpful first step, but we believe that there is an opportunity to set even stronger computer standards. We are very supportive of the performance-based approach to this standard, and support the commission's plan to cover both desktops and notebooks as they are both important players in the market, but encourage the Commission to consider setting more stringent efficiency levels across the board. The categorization of desktop computers and thin clients into one bucket essentially means that most existing thin clients will be safe from the standard. This leaves substantial savings available in regulating thin clients more stringently. At present, the ENERGY STAR computers V6 has two distinct thresholds for those products; setting separate energy limits would create opportunity for more savings from thin clients that have fewer capabilities than desktops and therefore should use less energy.

Desktop Comments:

NEEP encourages CEC to set more stringent desktop limits as in many cases, the levels currently proposed for desktops can be met with just software updates, activating power management capabilities, and improved power supplies. Since the standard only covers non-active energy use, it is especially important that the levels set are aggressive, since the machine will use much more power in active mode, which is not being regulated. It is key that manufacturers enable the low-power modes that already exist for desktop components such as sleep modes and deploy the recent processor and motherboard advanced power management capabilities. This will only occur if a stronger energy use limits are set by this standard. While the levels proposed in this staff plan seem appropriately stringent, these savings would be achievable cost-effectively if the standard were to go into effect today; since the standard is expected to be enforced starting in 2018, NEEP encourages the CEC to consider setting more stringent levels accounting for expected efficiency improvements by then. Furthermore, the levels for integrated desktops also seem too high (as was presented by the Natural

Resources Defense Council (NRDC) at the April 15 workshop). According to NRDC, mainstream integrated desktops currently on the market can meet proposed levels by a 20% to 35% margin. Since integrated desktops represent a growing share of the desktop market, it is important to set appropriate limits for these products.

Notebook Comments:
As detailed in the NRDC and California IOU comments, there are significant remaining opportunities for notebook energy savings and we feel the proposed limits for notebooks should be significantly strengthened. Notebooks already represent approximately two-thirds of computer sales and continue to grow in market share with the increase in trends such remote working and mobile computing. Manufacturers are continuing to make notebook R&D investments and while the individual devices are inherently more efficient than desktops, the volume and growth in number of notebooks means this category could overtake desktops in the amount of energy used within the next decade. Furthermore, as NRDC presented in the April 15 workshop, there can be very large differences in energy consumption between notebooks of similar capabilities. There are very significant remaining cost-effective savings within the notebook category and it is critical that the CEC set strong notebook standards now to provide a roadmap for manufacturers who are innovating rapidly on notebook technology.

Monitors and Display Standards: NEEP Strongly Supports
NEEP strongly supports the CEC in their efforts to set standards for computer monitors and signage displays. Generally, we feel that the levels proposed are not stringent enough and encourage the CEC to consider setting stronger standards, especially for signage displays.

Computer Monitor Comments:
NEEP feels that the proposed levels for computer monitors should be stronger as there are available monitor models that can meet the proposed levels that wouldn't go into effect until 2018. We offer the following suggestions for specific ways to achieve this in coordination with the Appliance Standards Awareness Project's comments:

- The CEC should consider a reduction in the resolution adder after a certain threshold resolution
- CEC should set a continuous on-mode power line similar to that in ENERGY STAR V7 Draft 1
- The CEC should set lower standby mode requirements given the state of the current market
- The CEC should consider setting power management requirements

Signage Display Comments:
Digital signage displays are typically set-up in large commercial spaces which means they may be left on virtually 24/7 and they are often set up in spaces where there may not be constraints on screen sizes; as such, it is especially important that the CEC set strong standards for these products for all possible screen sizes. NEEP recommends that the CEC considers expanding coverage to signage displays >1400 square inches, as there is a significant opportunity to capture more energy savings and a risk in leaving those products uncovered as manufacturers might shift their production to the larger, uncovered products. Additionally, NEEP believes setting higher standards now would pay off in the long term as these displays have high duty cycles, thus making efficiency more cost-effective. To help improve the signage display proposal, NEEP recommends (in conjunction with the comments from the Appliance Standards Awareness Project) that the CEC aligns with the ENERGY STAR approach to on-mode power by both including a luminance factor to account for brightness and an on-mode calculation that flattens out at the largest screen areas. The ENERGY STAR process is stakeholder driven and includes feedback from major manufacturers. Since these approaches were included in the ENERGY STAR specification, we feel they are appropriate to include in the CEC standard.

Overall, it is NEEP's opinion that these standards are critically important and the opportunity for additional cost-effective savings exists beyond what is proposed in the staff comments. NEEP is grateful for the opportunity to provide comments on the California Appliance Efficiency Pre-Rulemaking for computers, computer monitors, and signage displays. Please don't hesitate to contact me with any follow-up questions or clarifications.

Sincerely,

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