

July 26<sup>th</sup>, 2017  
Via Electronic Mail



Ms. Verena Radulovic  
United States Environmental Protection Agency  
Office of Air and Radiation  
1200 Pennsylvania Avenue NW  
Washington, DC 20460  
televisions@energystar.gov

**Subject: ENERGY STAR Version 4.0 Specification for Audio/Video Products**

Dear Ms. Radulovic:

This letter is submitted on behalf of the Northwest Energy Efficiency Alliance (NEEA) in response to the request for input to the ENERGY STAR Version 4.0 Specification Discussion Document for Audio/Video Products. NEEA is a non-profit organization working to encourage the development and adoption of energy-efficient products and services. NEEA has long been a strong supporter of the ENERGY STAR program for several products, including soundbars and other Audio/Video equipment.

NEEA continues to be in full support of the need for an updated specification for soundbars. ENERGY STAR is a critically important federal program created with bi-partisan support that annually delivers billions of dollars of energy savings to consumers and business. Soundbars is an important product type for ENERGY STAR with growing sales, under the current testing specification, there is a risk of misleading consumers without updated testing procedures and metrics, potentially resulting in much more energy being used by consumers during soundbar use. As such, ENERGY STAR's leadership in setting appropriate high-efficiency voluntary specifications is once again needed to recognize those products that can meet consumer's experiential expectations as well as save them energy and costs.

In this comment document, we provide input on the Audio/Video Version Future Specification regarding:

1. Representative Testing of Audio Products
2. Soundbar Inclusion in the Qualified Products List (QPL)
3. Requirement Criteria for Soundbars

**1. Representative Testing of Audio Products**

- a) **NEEA recommends the Environmental Protection Agency (EPA) require measurement of amplifier efficiency at an input power that produces a sound pressure level that is representative of typical use of the product.** This ensures that measured amplifier efficiency represents standard consumer use. The sound pressure level in decibels (dB) should be based on product type and/or intended sector, which is already a required input in the current specification. Soundbars are typically used in conjunction with televisions, therefore, the amplifier efficiency should be measured at a power level that produces specified sound pressure levels at typical television viewing distances. Finally, the power required to achieve this volume should be reported along with the amplifier efficiency so consumers can compare the product's power requirements.

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- b) **NEEA supports the use of a representative test clip to determine an active-mode power that can be used to derive the product efficiency at a specified sound pressure level.** In the July 17, 2017 Discussion Document Webinar hosted by EPA, EPA suggested the use of a representative test clip for measuring active-mode power of audio products. We support the use of a test clip for measuring the active-mode power of products to better represent consumer's energy consumption during normal use. Additionally, a measured active-mode power would include ancillary power sources such as lights, controls, and networking which are not currently captured through amplifier efficiency testing. Measurements of active-mode power should be performed at recommended settings for standard listening at a specified sound pressure level based on the comments above.
  - c) **NEEA recommends that designated wireless products be tested in the wireless configuration.** EPA noted in the Discussion Document Webinar that products are required to be tested with wired connections when available, regardless of the products' planned configuration. NEEA supports the prioritization of wireless testing of products designed for wireless operation and marketed to consumers as wireless products.
2. **Soundbar Reporting in the Qualified Products List (QPL).** NEEA recommends that EPA makes appropriate distinctions between audio equipment listed in the QPL. Listings should convey the necessary information needed by the users of the QPL to make informed decisions regarding the type and efficiency of listed products.
- a) **NEEA recommends that EPA require soundbars to be listed as *soundbar* product type instead of *amplifier*.** Currently, only two soundbars are listed as *soundbar* instead of *amplifier* in the QPL. This lack of distinction between product types makes it difficult for efficiency programs to properly list and differentiate between listed products, and could be confusing to consumers looking for ENERGY STAR listed soundbars. In alignment with other comments, appropriate differentiation between product types will allow for distinct sound pressure level decibel testing criteria by product type and use.
  - b) **NEEA recommends that EPA require soundbars that are sold or designed to be used with ancillary components, such as subwoofers, to be tested and reported as one system.** Testing product components designed to be part of one system will ensure that the reported values accurately reflect actual use. Currently, the QPL requires testing and reporting of these components separately, even if designed to be used in conjunction. Listing the component values rather than the system values creates confusion for consumers and efficiency programs, since such systems are purchased as a whole rather than individually.
  - c) **NEEA recommends that EPA require soundbars and subwoofers that are designed to be used together be reported as their own "product type".** The requirement currently entails these components to be tested individually. Currently the QPL does not clearly label whether components are designed to be used together, even if they cannot be purchased separately. This is a barrier to consumers trying to compare soundbar systems and may mislead consumers into thinking that a *soundbar* constitutes the whole system. For clarity in the QPL, NEEA recommends EPA consider adding additional product types like "stand-alone soundbar", "soundbar (subwoofer not included)", "soundbar (subwoofer included)", and "subwoofer for soundbar".
  - d) **NEEA recommends that amplifier efficiency and active-mode power should be tested and listed for all products, regardless of whether the metric is required.** Currently there is a lack of data for active-mode power, which makes it difficult for efficiency programs

and consumers to make informed distinctions between soundbars. Without active-mode listings, it is impossible to gauge energy savings during product use, especially important to customers with prolonged use. Most soundbars are not required to test amplifier efficiency because of low MUPs, therefore this value is not tested or reported in the QPL. The products that qualify for ENERGY STAR should have these metrics available to consumers and efficiency programs, as they are crucial for comparing energy use and efficiency of audio products.

### **3. Amplifier Efficiency Requirement Criteria for Soundbars**

NEEA commends EPA's attention in the Discussion Document Webinar to the fact that soundbars are typically not required to meet or report an efficiency metric representing active-mode use since the current specification does not require products with 1/8 MUP less than 20 watts to report amplifier efficiency. Soundbars are estimated to be used 5 hours per day with televisions, so active-mode power consumption should be a relevant metric to consumers purchasing and using these products. Therefore, EPA should require a minimum amplifier efficiency for all products regardless of MUP. Per NEEA sales data from the Retail Products Platform (RPP), only 20 of the 64 models sold through the program have reported amplifier efficiency values, equaling about 37% of sales. Of these models, the sales-weighted average amplifier efficiency is equal to 56%, with the most efficient soundbar amplifier being 78%. Thus, NEEA supports a required amplifier efficiency of at least 50% for all ENERGY STAR models. This will drive manufacturers to produce equipment that is energy efficient in all modes of operation (sleep, idle, and active).

We thank EPA for the opportunity to comment on these important changes to its proposed specification, and we very much appreciate the Agency's responsiveness to stakeholder input. NEEA looks forward to continuing our work with the ENERGY STAR program for Audio/Video products.

Respectfully,



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Northwest Energy Efficiency Alliance