

January 26th, 2018
Via Electronic Mail



Ms. Ann Bailey
Branch Chief, ENERGY STAR Products
US Environmental Protection Agency
Office of Air and Radiation
1200 Pennsylvania Avenue NW
Washington, DC 20460
EnergyStarProducts@energystar.gov

Subject: ENERGY STAR Guidelines and Process Improvement

Dear Ms. Bailey,

This letter is submitted on behalf of the Northwest Energy Efficiency Alliance (NEEA) in response to the request for input to the ENERGY STAR® Guidelines and Process Improvement Letter issued on November 20, 2017. 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 many products, including the eight ENERGY STAR products currently incentivized through NEEA's Retail Products Portfolio (RPP) Program. 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. As such, ENERGY STAR's Guidelines and Standard Operating Procedures should enable the most effective pathways toward recognizing products that are the 'best of the best' at meeting consumer's experiential expectations as well as save them energy and money.

NEEA is very supportive of the ENERGY STAR program's general philosophy of transparency among stakeholders. As a key Retail Products Platform (RPP) program sponsor, NEEA believes the Standard Operating Procedure plays a vital role in maintaining a collaborative environment that allows for utilization of ENERGY STAR specifications in programs that benefit consumers by saving energy. Therefore, NEEA applauds EPA for reviewing ENERGY STAR guidelines and processes, and for opening this review process for stakeholder feedback. After review of the proposal and information presented in the November 20 document, NEEA submits the following comments on the proposed criteria.

In this comment document, we provide input on the Guidelines and Process Improvement Document regarding:

1. Test Procedure Development
2. Analysis of Performance Data
3. Alignment with Department of Energy Standards

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4. Specification Revision Cycles
5. Data Transparency
6. Product Sizes and Capacities
7. Opportunity for Appeal
8. Use of Industry Standards

1. Test Procedure Development

NEEA supports EPA using the federal test procedure where applicable, and recommends EPA continue to remain flexible when metrics or provisions that allow for more real-world reporting are needed.

A key example for when EPA should consider flexibility is in the federal test procedure for televisions, which requires the use of an International Electrotechnical Commission (IEC) “Test Clip”, developed by the industry to benchmark the on-mode power of televisions. As EPA is aware, a report by the National Resources Defense Council (NRDC) in 2015 suggested that the IEC test clip is not representative of real-world use for a variety of reasons. DOE and IEC will eventually update the test method and clip, respectively, but the process for these changes is notably slow when compared to the market cycles of this product – by the time this issue is resolved, the next trend may render it once again obsolete (e.g., the test clip has yet to consider high-dynamic range). Due to the uncertainties of the test procedure and the slow pace at which it can be changed, NEEA and other RPP sponsors have opted not to incentivize televisions in 2018, a decision that slows the market adoption of energy-efficient products.

EPA has demonstrated in Version 8.0 of the Televisions Specification that it can move quickly to adapt to such industry trends. In this specification, EPA proposed that manufacturers test MDD to prove that it performs adequately in real-world conditions. EPA should continue using the IEC test clip as a starting point and also supplementing it with additional methods that ensure the reported values are accurate and representative of real-world usage.

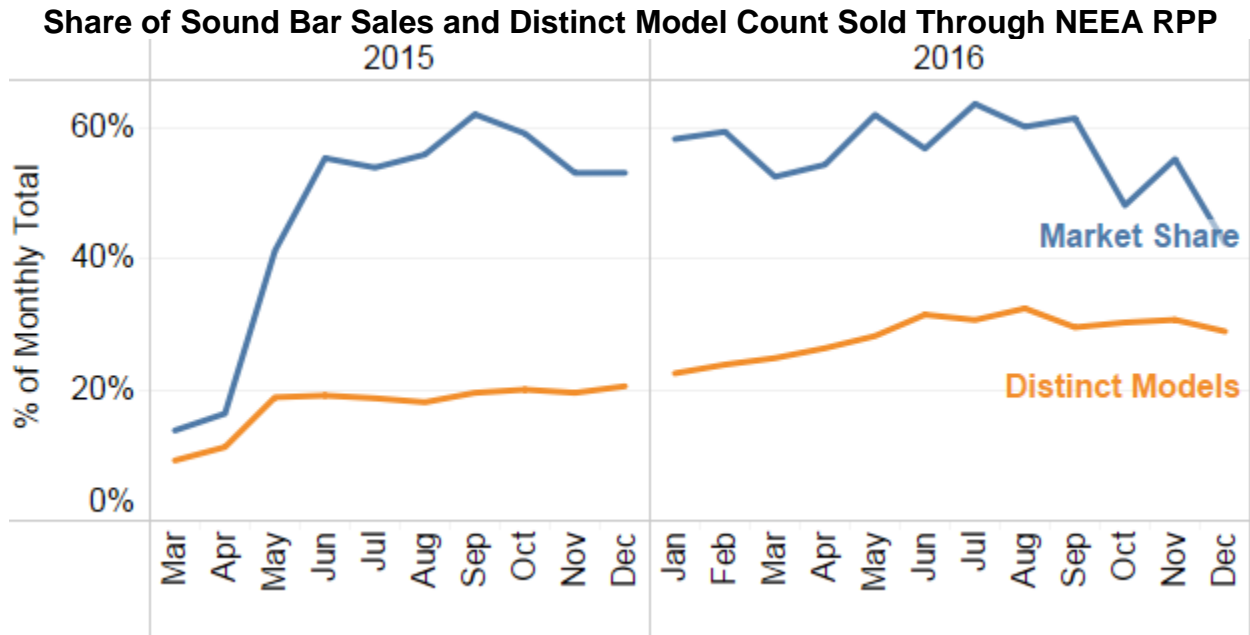
2. Analysis of Performance Data

NEEA requests EPA emphasize the use of market data in triggering specification updates and setting qualify levels by considering:

More frequent updates to the unit shipment data. The current annual frequency of the ENERGY STAR Unit Shipment Data Report may not be well-suited for fast-changing markets. If more frequent updates are cost-prohibitive, EPA should consider smaller reports, varying the reporting frequency on a product-by-product basis. For example, EPA could provide updates to the unit shipment data for televisions more frequently than for a slower-moving market, such as the freezer market.

Stakeholder data, such as NEEA’s RPP Program. By looking at the sales of sound bars sold through NEEA’s RPP Program in the figure below, the market penetration of ENERGY STAR sound bars in 2015 when averaged throughout the year would appear to have been only about 30%. In the 2015 Unit Shipment Data Report, EPA indeed reported

33% market penetration (later updated to 48% in August 2017). However, it is clear from this more granular dataset that market penetration in NEEA region has surpassed 40% by the end of 2015. EPA opened the Audio/Video Specification for revision in 2017, but could perhaps have initiated this process sooner with the market data from NEEA’s RPP Program.



Such market data can also be helpful for setting qualifying levels. In the absence of market data, energy-efficiency programs have often used model-availability as a proxy for market penetration. NEEA believes that after brand diversity is considered, market share is more accurate than model-availability for determining levels that will lead to energy savings. In the figure above, sales data collected through NEEA’s RPP Program shows an increase of about 30% in the market penetration of sound bars qualified for ENERGY STAR in 2015. During this time, the number of models that qualified for ENERGY STAR increased by only 10%. This decoupling of model-availability and market share suggests that qualifying levels could perhaps be more stringent, potentially leading to additional savings and a truer differentiation of the most efficient products.

3. Alignment with Department of Energy Standards

NEEA recommends EPA maintain flexibility in requiring voluntary provisions that may not be explicitly defined by U.S. Department of Energy (DOE), including additional test methods, product classes, or energy metrics.

EPA should consider the Televisions Specifications as an example of the flexibility required. In the Final Draft of Version 8.0 Specification for Televisions, products are required to meet a minimum standby power, on-mode power, and peak-luminance ratio. In addition, the specification does not allow for “motion-detection dimming (MDD)” unless manufacturers can prove with “real-world” testing that the feature performs adequately.

EPA should continue use of multiple metrics for differentiating the most efficient products. and continue to monitor unique features, such as MDD or connected functionality, and base certification criteria on such features.

4. Specification Revision Cycles

NEEA recommends that EPA continue forecasting market share to anticipate market changes by accounting for market efficiency improvements leading up to a product specification's effective date. In planning for future specification revisions, we suggest EPA continue to focus on data that allows the agency to forecast and anticipate market changes. EPA typically uses the "top 25%" distinction when establishing qualifying levels in its specification-development activities. However, in many cases this distinction does not account for the product development cycles from the time the specification has been finalized to the time it goes into effect (approximately 9 months). EPA should account for product development cycles more thoroughly to ensure that once the specification only captures 25% of the most efficient products, or preferably the top 25% of sales, at the time of effect.

Forecasting and market anticipation could include the use of data from NEEA's RPP Program. For example, as seen in the previous figure, the market penetration of ENERGY STAR sound bars continues to increase in 2016. With this data, EPA can track market changes monthly, thereby ensuring that Audio/Video Specification Version 4.0 is stringent enough to remain relevant once it goes into effect. NEEA looks forward to working with EPA on forecasting sales and model availability where data is available. EPA should seek additional sources of data to validate the claims of NEEA or any other organization privy to market data.

NEEA continues to recommend EPA consider better coordination between "Most Efficient" and the standard ENERGY STAR certification requirements. NEEA fully supports EPA's efforts to recognize the top tier of models by establishing the "Most Efficient" designation. For these products, EPA should establish a stronger connection between the standard ENERGY STAR level and the corresponding "Most Efficient" level. For some product categories, EPA may consider a tiered approach, such as having "Most Efficient" become the standard ENERGY STAR level when a threshold is surpassed. This creates a stronger, more coordinated, multi-year strategy to accelerate adoption and development of highly efficient models, and reduces potential confusion between the two specifications by clearly defining their relationships to one another. It may also help in establishing backstop mechanisms in case specification revisions are resource-prohibitive.

5. Data Transparency

NEEA recommends EPA publish the market data and methodology used to establish or revise an ENERGY STAR product specification. Specifically, we ask that EPA list the sources where EPA obtained the information regarding the total market for product categories

**2016 Market Penetration of ENERGY STAR
(As Reported by EPA Unit Shipment Data vs. NEEA RPP Sales Data)**

Product	2016 EPA Unit Shipment Data	2016 NEEA RPP Sales
Air Cleaners	33%	98%
Sound Bars	40%	54%
Clothes Dryers	32%	35%
Refrigerators	51%	57%
Freezers	19%	16%

As can be seen in the table above, which shows the estimated 2016 market penetration of ENERGY STAR products compared to values reported in the 2016 EPA Unit Shipment Data Report, there is sometimes a large discrepancy among data sources. To better understand this discrepancy, NEEA and other RPP sponsors have assessed products available through major online retailers, but have not yet reached a conclusion on the root cause of this discrepancy. As program sponsors continue to search for explanations, EPA should continue working with program sponsors to distill the causes of such discrepancies that may impede successful program planning, thereby slowing market adoption of efficient products. Increased data transparency would lead to better coordination between programs like RPP that utilize ENERGY STAR specifications for determining incentive levels.

NEEA also recommends EPA consider for certification the testing and listing of all metrics relevant to energy efficiency and conservation. EPA should consider requiring the testing and listing of metrics beyond what is required for certification. This will promote ENERGY STAR by allowing conscientious consumers to scrutinize all energy aspects of an ENERGY STAR product that may be relevant to their decision-making.

In some cases, EPA requires manufacturers to test a setting, feature, or function, but does not publish the results of these tests. For example, to certify a clothes washer, manufacturers are required to report to EPA the remaining moisture content (RMC) of the washer unit – this data is not published in the ENERGY STAR qualified-products dataset.

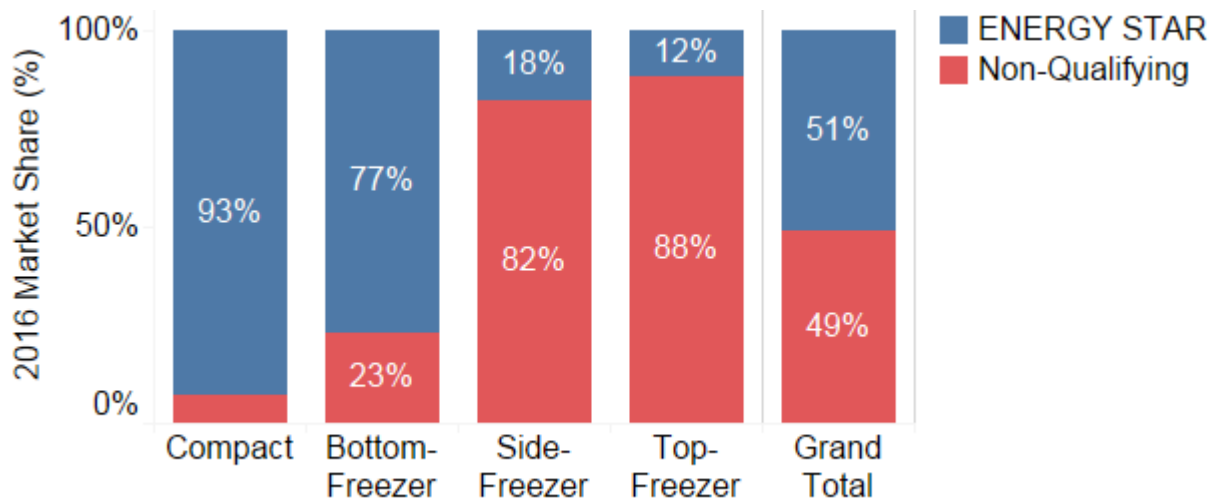
In other cases, EPA does not require manufacturers to test or report on energy metrics. For example, audio/video products like sound bars with amplifier input power at 1/8 maximum undistorted power with reference signal of less than 20 watts are not required to measure or report amplifier efficiency. This prevents energy-efficiency programs from incentivizing sound bars with efficient amplifiers. Moreover, it prevents stakeholders from any awareness of whether amplifier efficiency is increasing or decreasing over time.

NEEA suggests EPA require that manufacturers test all efficiency metrics even if they are not required to do so for certification. It would be of great benefit for consumers and energy-efficiency program implementers to have access to this data. We recommend this level of data transparency from manufacturers should be prerequisite to certification.

6. Product Sizes and Capacities

NEEA recommends EPA more broadly apply the approach of setting qualifying levels for each product class, instead of a single requirement for all product classes. EPA should continue with approaches like the one used for the Washers Specification Version 8.0, where qualifying levels (e.g., integrated modified energy factor) for each product class are considered separately. This level of detail offers an advantage over broad alignment with federal standards by allowing EPA flexibility to increase qualification stringency for product classes that are already seeing high market penetration of ENERGY STAR. For example, the Refrigerators Specification Version 5.0 qualifies most models that are 10% better than the federal minimum requirement. As can be seen in the figure below, which depicts the 2016 market penetration of ENERGY STAR products by product configuration sold through NEEA’s RPP Program, the single requirement for all configurations is ineffective for compact and bottom-freezer refrigerator-freezers – most refrigerator-freezers in these product classes already qualify for ENERGY STAR.

2016 Market Penetration of ENERGY STAR Refrigerator-Freezers by Configuration



7. Opportunity for Appeal

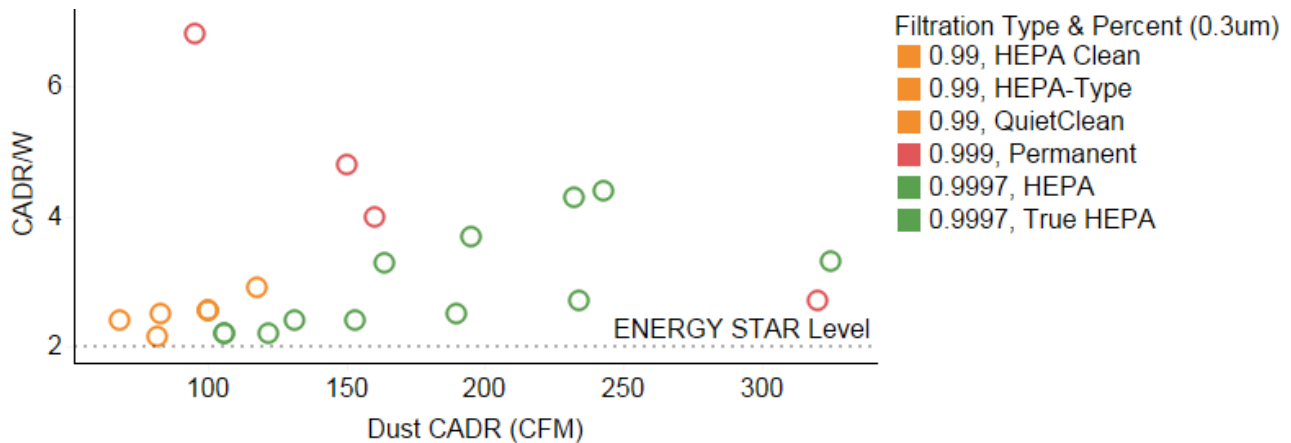
NEEA recommends EPA make public all data that is submitted by stakeholders in an appeal; all stakeholders should have the ability to respond to new data. As the ENERGY STAR Program continues to cover additional products, we recommend any future appeals be made public so that stakeholders can respond with data to address the appeals. As a specification comes closer to being finalized, the opportunity for new data to come out at the last step to “derail” the process should be limited.

8. Use of Industry Standards

NEEA recommends EPA use industry standards as a “starting point”, but deviate when information is brought forth that could inform a test procedure that is more reflective of real-world use, or when industry standards are outdated.

An example of a product specification that may require further refining is the air cleaner criterion, which uses an industry test method to determine the clean-air delivery rate per watt of power (CADR/W). The test method uses dust particles, which are required by the industry test method to have a particle-size range of 0.5 – 3 microns. From an analysis of air cleaners offered through NEEA’s RPP Program, most air cleaners sold through major retail channels advertise a reduction of noise and/or a HEPA-type filter with effectiveness measured at 0.3 microns. The figure below, which shows the CADR/W distribution of models sold through NEEA’s RPP Program, suggests that filtration efficacy is strongly correlated with the clean-air delivery rate, but loosely correlated with CADR/W. The industry test method is likely inadequate for determining whether air cleaners are efficient while meeting consumer needs.

Distribution of Air Cleaner Efficiencies Sold Through NEEA RPP (2015-2017) by Clean Air Delivery Rate (CADR) and Filter Type



We thank EPA for the opportunity to comment on its Guidelines and Process Improvement effort, and we very much appreciate the Agency’s responsiveness to stakeholder input. NEEA looks forward to continuing our work with the ENERGY STAR program.

Respectfully,

Nick Leritz
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Northwest Energy Efficiency Alliance