

ENERGY STAR® Version 7.0 Residential Dishwasher Draft 1 Specification Stakeholder Comment Matrix

Topic	Comment	EPA and DOE Response
Energy and Water Performance	<p>Three stakeholders are strongly supportive for EPA's proposed Version 7.0 ENERGY STAR specification. They stated with ENERGY STAR dishwashers reaching 90% market saturation, it is time to recognize the most efficient products.</p> <p>Four stakeholders strongly oppose a Version 7.0 ENERGY STAR specification. These stakeholders were concerned that the proposed energy and water performance levels would negatively impact dishwasher performance as to inadvertently push consumers to operate their dishwashers using less efficient cycles to achieve the results that they seek. This would offset the efficiency gains that could be obtained from the more efficient dishwashers.</p>	<p>EPA thanks stakeholders for these comments. As a voluntary program, ENERGY STAR is successful only as long as consumers have a positive association with the label, which is designed to demarcate and highlight energy-efficient products.</p> <p>With near 100% market share and many dishwasher models on the market today that could meet more stringent efficiency levels, EPA believes that more stringent energy and water performance levels are necessary to distinguish market leaders and to encourage continuous innovation in technology, engineering, and design of dishwashers to bring more efficient, better-performing dishwashers to consumers.</p>
Sunset	<p>Several stakeholders strongly supported sunseting of the ENERGY STAR dishwasher specification. Stakeholders expressed concerns including diminished returns from more efficient dishwashers, possible negative performance consequences of increasing energy and water levels, possible cleaning performance issues, and technology limitations.</p> <p>There was, however, support from other stakeholders for the new specification who want the best in performance and efficiency to be recognized.</p>	<p>EPA thanks stakeholders for these comments. Since version 6 became effective, EPA has seen the average dishwasher efficiency and ENERGY STAR market share for dishwashers grow every year. This indicates to EPA that a revised specification that works to distinguish energy efficient leaders in the market, and not the sunseting of the specification, is the appropriate next step for the program.</p> <p>Furthermore, the consistently high annual market share of ENERGY STAR certified dishwashers indicates the significance that consumers, and thereby manufacturers, continue to place on the ENERGY STAR label on dishwashers. Additionally, there are models available on the market today with new technologies that are allowing these products to achieve higher levels of water and energy efficiency while still meeting cleaning thresholds. EPA also believes that continuous innovation in technology and design of dishwashers is possible to push these products towards greater efficiency and performance. EPA looks forward to working with stakeholders to find a path forward for the program that continues to provide value to stakeholders and consumers.</p>

<p>Payback Analysis</p>	<p>Three stakeholders challenged EPA's payback analysis. One claimed the baseline for the calculation should be Version 6.0 instead of the DOE Standard and EPA's current approach does not evaluate the incremental costs to manufacturers to meet the Version 7.0 criteria. The other stakeholder shared its own analysis over a 12-month period, which claimed a \$300 average cost increase from current ENERGY STAR compliant models to models that are compliant to the proposed Version 7.0 levels.</p>	<p>When developing savings, EPA compares the performance of conventional products to that of the proposed ENERGY STAR level. For all products that must meet federal standards, including dishwashers, EPA consistently uses the federal standard as the point of comparison for savings.</p>
<p>Soil Sensors</p>	<p>Two stakeholders expressed support for a soil sensor requirement. It was noted that significant energy savings can come from soil sensors due to the common occurrence of consumers running partial or lightly soiled loads as described in the DOE's test procedure found in 10 CFR 430 Appendix C1 to Subpart B, which incorporates ANSI/AHAM DW-1 2010. The DOE test procedure a weighting factor of 0.62 for the light soil load, 0.33 for medium, and 0.05 for heavy. This means that DOE assumes that 62% of the time, dishwashers are run with lightly soiled loads. For the stakeholders who were against adding the soil sensor requirement, they cited concerns that it is not the role of government, particularly a voluntary program, to implement regulations on the construction of products. They stated that ENERGY STAR should remain concerned with reducing greenhouse gas emissions by removing market barriers and inspiring innovation for manufacturers.</p>	<p>EPA understands that the use of soil sensors can improve efficiency and wash performance. EPA appreciates the feedback it has received and encourages stakeholders to share data/information on how EPA may highlight or quantify energy savings associated with soil sensors.</p>

<p>Cleaning Performance</p>	<p>Three stakeholders expressed support for a minimum cleaning performance requirement. They appreciated EPA’s evidence and analysis to support this requirement for Version 7.0. One stakeholder proposed EPA add an extra heavy soil cycle to the test to demonstrate the effectiveness of the soil sensors. The extra heavy soil load requirement – in addition to the cleaning performance test – would together help ensure that dishwasher test loads are cleaned without pre-rinsing. Thus, the extra heavy soil load requirement will provide consumers further confidence not to pre-rinse because dishwasher designs would adapt to clean effectively without pre-rinsing. This would result in significant water and energy savings under real-world consumer usage.</p> <p>Three stakeholders do not support adding a cleaning performance requirement to the scope of the specification because of concerns over reproducibility and repeatability of the cleaning performance test. They cited issues they found when conducting the test and claimed other stakeholders experienced variance between tests at different labs which were significant.</p> <p>One stakeholder stated EPA should not include a cycle time limit.</p>	<p>DOE seeks to establish a test procedure that is representative of typical consumer use. DOE does not have any data to suggest that adding an extra-heavy soil load requirement would better reflect typical consumer usage patterns. Therefore, DOE supports retaining the current soil loads in Version 7.0. Testing cleaning performance on the same cycles as the energy and water consumption tests ensures that cleaning performance results are representative for the measured energy and water use. This proposal, i.e., evaluating cleaning performance on the same cycle as the energy and water consumption tests, is also consistent with DOE’s proposed amendments to its test procedure at Appendix C1 as specified in the recently published notice of proposed rulemaking (NPR).</p> <p>DOE further notes that when developing the ENERGY STAR Cleaning Performance Test Method, it found the test method to be repeatable and reproducible to the extent that a given unit under test performs consistently. If a unit displayed variability in the cycle response to a given soil load, it was due to the control scheme of the UUT rather than the repeatability and reproducibility of the proposed test method.</p> <p>EPA notes the need to ensure performance takes on added significance in context of ENERGY STAR where the efficiency levels are more stringent. On occasion, requirements are added to prevent trade-offs between efficiency and performance. Additionally, EPA looks forward to working with AHAM and other stakeholders to determine if performance is negatively impacted by higher efficiency levels.</p> <p>The proposed cleaning performance criteria draw on the resources available during development of the ENERGY STAR Test Method for Determining Dishwasher Cleaning Performance (Rev. Feb – 2014) and DOE’s most recent analysis of cycle selection data as part of the NPR.</p> <p>EPA did not propose to include a cycle time limit in the Draft 1 Specification.</p>
-----------------------------	--	---

<p>Data Analysis</p>	<p>Several stakeholders had concerns over EPA's use of data in the development of Version 7.0. One stakeholder stated the margin between product claims and performance is an important element of the appliance energy efficiency system, and it must be respected as an important part of the energy efficiency market.</p> <p>If EPA begins setting standards in a way that attempts to absorb these margins, the cost of ENERGY STAR compliance will go up and fewer products will be developed for ENERGY STAR compliance. Another stakeholder stated that EPA only looks at the number of models at the proposed energy and water levels, but do not consider if they will be able to meet the minimum Cleaning Index of 70. Unless EPA has data indicating otherwise, it should be assumed that all models not certified as Most Efficient do not meet this Minimum Cleaning Index score, and EPA should adjust the analysis accordingly.</p> <p>Stakeholders in general appreciated that EPA published additional data analysis. A few stakeholders expressed concern of EPA's analysis that uses an engineering factor between measured and reported ratings.</p> <p>A stakeholder stated EPA needs to consider shipment volume instead of model count pass rate when evaluating the percent of models meeting proposed criteria. The stakeholder believes most of the models meeting ENERGY STAR Most Efficient criteria are low-volume and high-price niche models.</p>	<p>Particularly as market share is near 100%, to develop the proposed ENERGY STAR levels, EPA assembles efficiency data that is reflective of models currently on the market by reviewing reported data. Recognizing that many models are reporting at the ENERGY STAR level, EPA evaluated and used as informative, the measured data. This two-step analysis gave EPA a better picture to establish performance levels that consider the efficiency that has been achieved by today's models and establish a level that recognizes best in performance. Further, EPA overlaid the cleaning index data gathered through ENERGY STAR Most Efficient to confirm cleaning performance would not be sacrificed at levels being considered.</p> <p>Using shipment-weighted data runs the risk of failing to support the Agency's intent of defining and recognizing leadership in energy efficiency performance, as it typically would produce a result that continues the status quo.</p>
<p>Collaboration Opportunities</p>	<p>There was general support for the idea of working with other organizations on the development of consumer education on how to effectively load the dishwasher and other ways to help conserve water and energy.</p>	<p>EPA recognizes the importance of raising awareness on the environmental benefits of using dishwashers over handwashing, educating consumers on "scrape, not rinse," and informing consumers on the best ways to load a dishwasher. EPA looks forward to collaborating with partners and stakeholders to develop messaging and educational resources towards these efforts.</p>

<p>Connected Criteria</p>	<p>Several stakeholders supported the updated connected criteria for Version 7.0 and believe that it would be a good way to increase efficiency via greater control. One stakeholder stated they believe it is possible to have a 1.0 W standby power level requirement but do not recommend adjusting this requirement at this time.</p> <p>Two stakeholders had concerns with cybersecurity and stated their lack of support for EPA engaging in cybersecurity activities because it is outside the scope of the ENERGY STAR program. They stated cybersecurity falls more under the purview of Consumer Product Safety Commission, Federal Trade Commission, the Federal Communications Commission, Department of Homeland Security and DOE.</p> <p>One stakeholder would like EPA to revise the specification to allow the consumer to permanently disable a product's DAL response without negatively impacting its assessment under ENERGY STAR. The same stakeholder stated there should be a time cap of no more than 15 minutes for temporary load reduction because anything more than that can affect efficiency.</p>	<p>EPA appreciates this information and feedback and encourages partners to share any new reports and research on connected products when they are available.</p> <p>EPA thanks stakeholders for their feedback on cybersecurity.</p> <p>EPA thanks the stakeholder for this comment. Consumers are alerted when a Delay Appliance Load signal is received by the product. Consumers can override the product's response to the Delay Appliance Load signal at the time of selecting the cycles and options. The current default settings for the Temporary Appliance Load Reduction require a response for a time period of at least 10 minutes.</p>
<p>Development Cycle</p>	<p>Two stakeholders expressed concerns over the proposed timeline for the Version 7.0 specification and would like additional time incorporated into the Version 7.0 implementation schedule.</p>	<p>EPA thanks the stakeholders for their feedback that the proposed timeline is a cause for concern. EPA recognizes that the current pandemic situation and supply chain issues may impact development and production timeframes of products. EPA will continue to monitor the situation and dialogue with stakeholders throughout the revision and implementation process to evaluate the need for an extended specification revision and implementation process.</p>