

**Stakeholder Feedback: Commercial Dishwashers ENERGY STAR Version 3.0 Draft 1 Specification**

Topic	Feedback	EPA Responses
<b>Definitions</b>	Manufacturer suggests removing 'sanitizing' or replace with 'sanitized' for low temperature machines.	The ASTM F1920-15 definition for low temperature machines suggests keeping 'sanitizing rinse' as the most applicable term. NSF/ANSI 170-2010 Section 3.173 suggests this definition should remain as is. As a result, the EPA proposes not to revise the definition in the Draft 2 specification.
	Manufacturer requests the exact definition for dual rinse machines.	A definition for dual rinse machines was not located in NSF 170-2015 or ASTM 1696/1920. The EPA requests suggestions for a representative definition.
	A manufacturer suggests a definition for under counter should include the machine be designed to accept a standard 20"x20" rack. Without this addition machines that have smaller wash compartments would be found to wash at comparable energy and water consumption rates while washing fewer dishes per cycle.	The EPA finds no industry definition to call out 20"x20" rack for under counter but the spec does call out this rack size for single tank, door type machines. The ENERGY STAR specification does not exclude products according to size. The EPA proposes to relay the rack and conveyor dimensions information from the QPX into the QPL/Product Finder in order to help customers more clearly identify standard (20"x20" rack) from non-standard units.
	Manufacturer suggests replacing 'raising' with 'opening' a door for the single-tank door type definition.	The language in the Draft 1 specification is taken by reference from ASTM F1696-15. As a result, the EPA proposes not to revise the definition in the Draft 2 specification.
	A stakeholder suggests updating the data collection form to include a designation for machine type (dump & fill vs. freshwater rinse) and add appropriate definitions under Machine Types in the draft standard. Essentially, asking to define out dump & fill machines.	The Draft 2 specification includes a definition of dump and fill types for which the EPA requests stakeholder comment. A new reporting requirement will be listed under the QPX. EPA continues to request wash energy data for all machines to better and formally differentiate these machine types.
	A manufacturer inquires whether idle mode, energy saver mode, or idle energy rate include the energy consumption when machine returns to active.	No, idle mode, energy saver mode, idle energy rate do not include energy consumption as the machine returns to active. ASTM test procedures do not measure this. EPA intends to collect the ASTM calculated field Closed Door Energy Saver Mode Idle Energy Rate, which also does not capture the return to active energy from this mode, as the mode is a steady state test. EPA is interested in additional information/ data regarding this energy use.

	<p>A manufacturer wants the washing energy definition to change to 'wash, sanitize, and rinse dish loads' or 'wash and sanitize dish loads'.</p>	<p>EPA notes that the ASTM test methods do not account for additional rinse cycles after the sanitization (HT or LT) wash cycle. As a result, the EPA proposes not to revise the definition in the Draft 2 specification.</p>
	<p>A manufacturer comments that forcing the measuring of every machine with a different water consumption represents an unfair advantage to companies offering only limited variety. We pride ourselves in offering a very wide spectrum of machines (some that have not even been built up to now). A fair solution would be to measure one machine in a family and scale the results (energy and water consumption) up and down for the rest of the family.</p>	<p>EPA typically requires performance testing of machine configurations which are expected to have different performance results. Product family grouping is intended to address non-performance metrics differences, such as shape, finish, and mounting options without requiring additional performance testing. EPA refers manufacturer to the test procedures. In short, if the test procedure can capture the difference in performance, then the units are tested.</p>
<p><b>Scope</b></p>	<p>A question from a manufacturer: Since the sanitation process is mainly controlled by adding a certain amount of chlorine and / or a solution thereof, is EPA considering to include the energy and water consumption for production, distribution, storage, use, disposal, waste water plant treatment and other side effects of that chemical?</p>	<p>EPA intends to monitor this issue as information becomes available about the impacts associated with detergent use for sanitation. As a program, we are sensitive to the need to ensure our efforts to reduce greenhouse gas emissions from product energy use do not lead to higher emissions elsewhere in the product life cycle. ENERGY STAR, however, is specific to the performance of a particular product.</p>
	<p>A manufacturer notes that within the low temp under counter dataset there does not appear to be any fill and dump style chemical sanitizing machines represented. When considering water consumption per rack for door type machines there was a noticeable grouping within the data and a consideration given to keep machines of this technology viable within the standard. None of the current fill and dump undercounter machines currently listed in Version 2.0 would meet the new criteria for 0.80 gal/rack. Since the fill and dump machines skew the water consumption numbers up and washing energy consumption down there should be separate categories for fill and dump machines.</p>	<p>The EPA agrees that there appear to be no dump and fill low temp under counter machines and proposes stakeholders submit data, if available. Also, the Draft 2 revises the water consumption to v2.0 levels (1.19 gal/rack) for low temp under counter machines.</p>

<p><b>Certification Criteria</b></p>	<p>Manufacturer suggests that the idle mode requirement that the minimum tank temperature be maintained should be relaxed if the machine has the capability to ensure the wash temperature is met when operation is restarted. In other words, idle should be minimum tank temp that the machine can resume to for a wash cycle.</p>	<p>The EPA notes that this low power state may be captured by the collected field from the ASTM test procedure: Closed Door Energy Saver Mode Idle Energy Rate. EPA encourages manufacturers to provide additional feedback on this subject, including on whether this exact savings strategy would be captured in the ASTM Energy Saver Mode value.</p>
<p><b>Data</b></p>	<p>Questions from a manufacturer: (1) When is EPA going to introduce in their listing (Product Finder) the additional recognition for heat recovery models? (2) Heat recovery might need slightly more water but will benefit in the surroundings e.g. vent less, reduction of energy consumption of the HVAC system, better working condition etc. Is this or will this be part of EPA / EnergyStar considerations? (3) Especially if the heat recovery machines are to be compared side-by-side with non-heat recovery units then any energy for providing the machines with warm water (house generated) needs to be included.</p> <p>One stakeholder states that while EPA shared the dataset used to develop the Draft 1 specification, it's not clear how many manufacturers are represented that meet proposed criteria. The commenter encourages EPA to assess the impact of the proposed criteria, particularly washing energy, on individual manufacturer's ability to qualify products across categories, and share that assessment with stakeholders. Insight into whether multiple major manufacturers would be able to qualify products at proposed levels across product categories is an essential data point for program consideration and specification adoption.</p>	<p>(1) EPA anticipates adding a Product Finder field to identify products as containing heat recovery technology. (2) Installation specific considerations are not able to be accounted for ENERGY STAR savings and/or payback calculations, as these situations are not generalizable to a 'typical' end user. However, the energy considerations for energy recovery technology are being evaluated in a potential Heat Recovery Energy Credit for wash energy. (3) EPA agrees with this proposal and is evaluating a potential Heat Recovery Energy Credit for wash energy.</p> <p>EPA acknowledges that much of the new wash energy data in the Draft 2 data packet is masked to honor confidentiality requests. EPA has confirmed, however, that multiple partners have products that can meet the proposed criteria in Draft 2. EPA expects this number to grow, as EPA set relatively modest levels for wash energy due to the newness of the criterion, and as partners test more products leading up to the Version 3.0 effective date.</p>

<p>Additional information is necessary for program administrators to justify program support, including:</p> <ol style="list-style-type: none"><li>1) Transparency to how the energy savings values included in the dataset were calculated.</li><li>2) Number of models, brand, or unique model groups generally available that would meet the proposed performance criteria for each product type; and</li><li>3) Cost-effectiveness analysis and incremental retail price of the base unit relative to the ENERGY STAR unit.</li></ol> <p>A commenter requested the data above in Draft 1 comments because this level of data enables program administrators to evaluate proposed changes in energy performance levels. Program administrators need this information to determine impact, understand the size of energy savings, and the incremental costs of higher performing models. Having access to this level of data enables program administrators to justify programs and support the ENERGY STAR criteria.</p>	<p>The published data package for Draft 2 includes the data set and other information that help interested stakeholders determine the number of models that meet, how the per unit energy savings can be calculated, and cost effectiveness for models that are unmasked. A subset of the dataset is masked to honor confidentiality requests.</p>
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