



June 3, 2011

Rebecca Duff
ICF International

Subject: Comments on Draft 2: Version 2.0 Commercial Dishwasher Specification

Dear Ms. Duff,

We have reviewed the second draft Energy Star specification Version 2.0 for commercial dishwashers. Our comments are as follows:

1. Definitions – We are in agreement with the additional definition for a pot, pan and utensil washer. However, the definition for single tank, door type machines seems confusing with the addition of “single and multiple wash tank”. We are not aware of a single tank door type machine with multiple wash tanks. Also, the definition for flight type conveyor should be revised to include flat belt conveyors. One suggestion: “a conveyor type machine, as defined above, where the dishes are loaded directly on the conveyor rather than transported in a rack. This machine is also referred to as a rackless conveyor. May be single or multiple tank”.

Finally, we believe there must be a clear understanding of where “auxiliary rinse” or “dual rinse” type machines fit in the ENERGY STAR dishwasher program. The size of a power rinse tank on a multiple tank, rack conveyor machine is 20 to 25 gallons and for flight type conveyor machines 35 to 45 gallons. Auxiliary rinse tanks are dedicated to collecting fresh final rinse water and re-using it to rinse the dishes before the final sanitizing step. These tanks are anywhere from ½ to 5 gallons and may or may not be provided with a heating element. They can be found on single and multiple tank rack and flight type conveyor machines. Historically, the auxiliary rinse tanks have not been considered a power rinse tank since their purpose is to reduce final rinse water consumption. If single tank conveyor machines with an auxiliary rinse section are now treated as multiple tank machines, the qualification level will need to be re-balanced with the net result of taking many models off the list. Our suggestion is to retain the proposed wording that states, “...may include an auxiliary rinse section between the power rinse and final rinse sections”. This will maintain consistency with NSF 170 for Definitions.

2. Scope – We are in agreement with the revised scope and are not aware of industry standards that need to be referenced therein. One editorial suggestion is to revise paragraph 2 B as follows: “dishwashers intended for use in residential or laboratory applications are not eligible for ENERGY STAR under this product specification.” This will clarify that residential dishwashers are indeed eligible for ENERGY STAR qualification but under a different specification.
3. Pot, Pan and Utensil Washer Requirements – The tank heater idle energy limit of 0.70 kW for pot, pan and utensil washers appears low for typical 20 X 40 in. utensil washing machines. We hope this value will be adjusted when a data set is available for evaluation.

4. Educating end users on Proper Maintenance – The draft 2 specifications state that EPA is interested in getting stakeholder input on ways to educate end users about proper maintenance to help ensure continued performance over time. This was in response to concerns about lowering GPR limits that allegedly impact cleaning performance in the field, which could require additional wash cycles. Our research has shown that the quality of the water has more significant impact on results than the quantity of the water. For example, when the water quantity goes down, the water quality should go up while selecting appropriate chemicals. However, the use of low quantity, poor quality water necessitates proper selection of chemical combinations, i.e. detergent and rinse aid combinations, to achieve good washing results. In addition, appropriate routine maintenance, delimiting and cleaning is necessary.
5. Draft 1 Test Method for Final Rinse Water Consumption – We encourage EPA to continue to work with NSF International to ensure the two test methods are compatible. This will prevent duplicate testing in the event that a manufacturer utilizes separate certification bodies for sanitation and ENERGY STAR qualifications. Of course, one harmonized standard is always preferable.

The category of pumped rinse conveyor machines must be added since these are available on the market place today.

Please consider adding an alternate test method that allows the use of a calibrated flow meter to measure the amount of water consumed over time. A suggested meter specification is a measurement increment of 0.1 GPM and an accuracy of $\pm 1.5\%$.

Many undercounter dishmachines operate with water level sensors that determine drain time and volume. The water volume from cycle to cycle may vary slightly. For this reason the test method should allow averaging more than just 5 cycles or measuring the final rinse flow rate and multiplying by the final rinse cycle time.

6. Flight Type Machines – Although not opposed to using gallons per hour water consumption as a surrogate for energy consumption upon initial specification release, we are interested in reviewing the scatter plot of water consumption vs. square feet per minute of conveyor travel. As mentioned at the stakeholder meeting, we notice a correlation between water consumption and conveyor speed or water consumption and conveyor width when testing for heat sanitizing performance. Another factor that may be skewing the data is the difference between “standard height” and “higher than standard height” chamber openings. A second plot of water consumption per cubic feet per minute of travel may show a correlation. We appreciate the fact that peg-to-peg spacing will not be used in the calculation.

We agree that there should be separate categories for single tank and multiple tank machines.

For variable speed conveyors where the speed can be adjusted by the operator, the test should be performed at both the fastest and slowest conveyor speeds. Actual water consumption will fall somewhere between these two values. The worst-case water consumption value must then meet the ENERGY STAR performance criteria, which is yet to be established.

7. Miscellaneous - We believe this specification must address the use of supplemental devices that consume water. For example, if a prewash temperature control module or a drain water tempering control is included with a machine when shipped from the factory, does the unit still qualify for ENERGY STAR? These devices increase the overall water consumption but are not normally tested or reported in the NSF water consumption ratings.

Thank you for the opportunity to comment on the second draft. If you have any questions regarding this letter, please don't hesitate to call.

Sincerely,



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