



October 7, 2011

To: Christopher Kent
Energy Star Product Specification Development
Environmental Protection Agency

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Re: Comments on Draft 3: Version 2.0 Energy Star Commercial Dishwasher Specification

1. Definitions

Under Counter rack size should be specified. The definition of under counter machines fails to mention rack size, in contrast with the definition of door type machines. Without this specification, compact under counter machines with 16 x 16 racks could potentially meet the specification even if substantially less efficient than standard machines if evaluated on a comparable basis. We recommend that either a standard rack size be specified in the definition, or the formula for the calculation of the water consumption metric “gallons per rack” be modified to indicate that “rack” means 400 square inches of rack space (with possible adjustment for the area taken by the peripheral walls of the rack to yield a “usable rack space” metric). The latter approach would be preferable, allowing efficient compact under counter machines to be eligible for the Energy Star label.

2. Scope

Support for inclusion of flight type machines. Because flight type machines represent a significant share of the market for commercial dish machines, and because each machine is a major user of water and energy, we support the inclusion of flight type machines in Version 2.0 of the specification. We recognize that more parameters of operation will be captured when test procedures for operating energy consumption are completed and fully vetted for the next version of this specification. Nevertheless, we see benefit in bringing flight type machines into the program based upon water consumption and the reporting of idle energy.

3. Qualification Criteria

Support reporting of idle energy rate for flight type machines. We support the proposal in the current draft to set a reporting requirement for idle energy for flight type machines (provided that the reported data is publicly available), in lieu of setting a specific metric at this time. The reported data will help assist in setting a specific metric in version 3.0, and may be of use to purchasers in the intervening period.

Support for the inclusion of supplemental devices in the calculation of water consumption. Supplemental devices have the potential to significantly increase the water consumption of high temp conveyor machines. We recommend that the test protocols for conveyor machines be modified as necessary to capture the water used by any model with drain water tempering controls or prewash temperature controls installed by the

OEM. Although these devices may produce slightly different levels of consumption from one load to the next, the proposed test regime of 5 repetitions should provide sufficient averaging to evaluate their performance. The inclusion of the water consumption of supplemental devices within the specification should, over time, encourage further innovation in the need for and approach to the moderation of hot water temperatures by supplemental use of cold water.

Final rinse consumption should be based on minimum conveyor speed. The calculation for gallons per rack during final rinse in conveyor machines specifies that the determination is to be made at the maximum conveyor speed specified by the manufacturer. This approach will fail to capture the higher levels of water consumption that will result from slower conveyor speed. We recommend that the calculation be based on the lowest speed within the manufacturer's recommended range of operation. Alternatively, the mid-point of the specified range could be used until such time as Energy Star can develop additional data on prevailing patterns of usage by customers of conveyor type machines. Similarly, the calculation of gallons per hour for conveyor machines, including flight type machines, should have the slowest speed within the manufacturer's recommended range included in the equation.

Need for separate metric for dedicated pot, pan, and utensil machines is unclear. It would be preferable if the water consumption of all commercial dish machines that use racks to contain the ware to be washed were assessed on the basis of their gallons per rack. We do not dispute that the performance characteristics of dedicated pot, pan, and utensil machines are sufficiently different from other types of door type machines that separately stated performance criteria are appropriate. However, it is unclear why this performance criterion has to be stated in different terms. As noted above in the comment regarding rack size and under counter machines, it should be possible to define "rack" as a certain amount of usable rack space, and allow water consumption to be measured uniformly across the full variety of machine configurations that employ racks, including racks of non-standard size used by pot, pan, and utensil machines.

4. Test Requirements

Supplement the ES Test Method to incorporate water usage by supplemental devices, including prewash temperature control modules and drain water tempering controls. As noted above, the Energy Star test method for high temp conveyor machines should be modified as necessary to capture the water used by any model with drain water tempering controls or prewash temperature controls installed by the OEM.

5. Other

Unit shipment data disaggregation. Annual unit shipment data should be reported by EPA for each category of commercial dishwasher for which a separate specification has been developed, rather than simply aggregated into one summary result covering all shipments. Over time, the market share of Energy Star qualified products may vary significantly from machine type to machine type.

6. Issues for consideration in future versions of the Energy Star specification

Standby and Off-Mode Energy Use. The energy consumption of commercial dishwashers in off-mode and standby mode should be assessed after completion of version 2.0. With expanded coverage of active energy use anticipated for version 3.0, the substantial periods of inoperation (8 to 12 hours) commonly found with this product suggest that the possibility of coverage in a future version of the spec should be explored.

Energy and water consumption during manufacturer-recommended de-scaling cycles. The energy and water consumption of manufacturer-recommended de-scaling cycles should be measured, and consideration be given to allocating this consumption to per-cycle consumption metrics based on manufacturers' recommended frequency for de-scaling. Additional data should be gathered on customer usage of de-scaling cycles.