October 21, 2014

Via E-Mail

Ann Bailey
Director
U.S. Environmental Protection Agency
ENERGY STAR Product Labeling
appliances@energystar.gov

Re: ENERGY STAR Most Efficient 2015 Proposed Recognition Criteria, Dishwashers

Dear Ms. Bailey:

On behalf of BSH Home Appliances, I would like to provide our comments on the Environmental Protection Agency's (EPA) ENERGY STAR Most Efficient 2015 Proposed Recognition Criteria, Draft 2, regarding cleaning performance requirements for residential dishwashers (Oct. 3, 2014).

BSH supports any efforts to protect our environment and accepts a responsibility to prepare for future generations. Best in class energy performance is embedded in the BSH philosophy. BSH supports EPA and the Department of Energy (DOE) in their efforts to reduce energy consumption while maintaining product performance. However, much care should be taken to ensure methods and test procedures are correctly developed and not prematurely implemented. A good test procedure introduced correctly will serve as a tool to manufacturers, consumers and regulators; but a test procedure incorrectly implemented will be a burden and will result in countless hours of discussions, loss of confidence in programs, and ultimately an increase in cost to all involved. If a test procedure will be used as part of a verification program, reproducibility must be confirmed. Otherwise, confidence in the program will be questioned with possible false noncompliance resulting in excessive program cost for manufacturers and uncertainty for consumers and regulators.

In general BSH supports a dishwasher cleaning requirement. However, we feel strongly that the cleaning test procedure must be repeatable and reproducible. As stated in the AHAM DW-1 under the purpose, the AHAM DW-1 test was created to be repeatable. The test procedure was never intended to be reproducible across all labs. Through our own experience we know that the AHAM test is very subjective. We at BSH spend countless hours working to have our own internal labs be capable of performing the AHAM test in a repeatable and reproducible method.

Most current CB's do not have much experience scoring dishware. Nor do they have experience understanding the details of the testing that may influence scoring. Given the degree of variation in the round robin, BSH has concerns with inexperienced labs using a test procedure that is not reproducible determining if a dishwasher meets a specification. The AHAM round robin showed a 28 point variation in test results for a soil sensing dishwasher, using the most experienced labs in the USA. With this amount of variation using the most experienced labs, it is easy to see that the

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variation will increase when more labs are involved. Setting a threshold of 70% seems to be too aggressive considering the scoring variation. This issue becomes even more relevant as the requirements become stronger. While BSH is not comfortable with the 70% threshold on the 4 place setting run due to reproducibility, we are even less comfortable with the thresholds proposed with the 2 place setting (AHAM 75%) and the ½ place setting (AHAM 80%).

The typical performance attributes of a dishwasher include: cleaning, energy (including water), time, sound level and drying. All the performance attributes are related to one another and adjustments to one often impact another. An increase in performance for any of the attributes comes with a cost. For example, reducing the energy can be accomplished by reducing the main wash temperature; and the effects of reducing the main wash temperature can typically be counterbalanced by having longer wash times. So the cost in this example is longer cycle times. BSH strongly believes that any true reduction in the energy used in a dishwasher's program structure will impact performance, unless a change is made to counterbalance the energy reduction. But the reduction in performance does not have to influence the cleaning attribute; it can impact one of the other attributes as shown in the example above. With cleaning performance being the primary function of a dishwasher, internal BSH guidelines require all of all dishwashers to have excellent cleaning performance. Therefore we agree with the AHAM comments, that EPA has not presented any data to support the conclusion that energy reductions are reducing cleaning performance.

In addition, EPA should also consider that the cost of the being involved in the dishwasher Energy Star program has increased substantially since the introduction of third party verification. Adding a cleaning performance requirement will again increase that cost. Implementing test procedures that are not reproducible will lead to test challenges with additional program cost and time resources.

In closing, the experts that have been conducting the AHAM test for years have communicated that the AHAM test is not reproducible between labs. Evidence from the round robin confirms that there is major variation within the most experienced labs. If EPA moves forward implementing any type of cleaning threshold, consideration should be given to account for the variation of the test procedure in the thresholds. Thresholds should be established with data to avoid unnecessary development and component cost. Unfortunately, we do not have recommendations for the thresholds as we do not fully understand how reproducible the test will be when inexperienced labs are involved. But we do not feel a threshold of 70% takes into account the variation seen in the round robin, with consideration that inexperienced labs will be involved.

Thank you for consideration of our comments. Please let us know if additional information would be helpful.

Best Regards,
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