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Via E-Mail

Verena Radulovic
U.S. Environmental Protection Agency
ENERGY STAR Appliance Program
appliances@energystar.gov

Re: ENERGY STAR Draft Final Test Method for
Determining Residential Dishwasher Cleaning Performance

Dear Ms. Radulovic:

On behalf of the Association of Home Appliance Manufacturers (AHAM), I would like to provide our comments on the ENERGY STAR Draft Final Test Method for Determining Residential Dishwasher Cleaning Performance (Draft Procedure) and the accompanying data collection. In addition, because no opportunity to comment was otherwise provided, AHAM also takes this opportunity to comment on the Version 5.1 Specification.

AHAM represents manufacturers of major, portable and floor care home appliances, and suppliers to the industry. AHAM's membership includes over 150 companies throughout the world. In the U.S., AHAM members employ tens of thousands of people and produce more than 95% of the household appliances shipped for sale. The factory shipment value of these products is more than \$30 billion annually. The home appliance industry, through its products and innovation, is essential to U.S. consumer lifestyle, health, safety and convenience. Through its technology, employees and productivity, the industry contributes significantly to U.S. jobs and economic security. Home appliances also are a success story in terms of energy efficiency and environmental protection. New appliances often represent the most effective choice a consumer can make to reduce home energy use and costs.

AHAM supports the Environmental Protection Agency (EPA) and Department of Energy (DOE) in their efforts to provide incentives to manufacturers, retailers, and consumers for continual energy efficiency improvement, as long as product performance can be maintained for the consumer. We are distressed, however, by the lack of transparent process in issuing Version 5.1. In addition, AHAM continues to believe that it is critical in the current environment of increased third party testing and enforcement that the test procedure be repeatable and reproducible, and we have yet to see convincing data to show that is the case for this cleaning performance test procedure. That being said, we appreciate that DOE and EPA have adopted our suggestions regarding the sampling plan.

I. Version 5.1 Specification

EPA announced, via letter dated February 28, 2013, that it has “updated” the Version 5.0 Residential Dishwasher specification and renamed it Version 5.1. This “update” changes the test procedure to Appendix C1 and allows manufacturers to elect to have their Certification Body certify their eligible products to either Appendix C or Appendix C1, so long as they follow DOE’s guidance on early use of revised test procedures. In addition, Version 5.1 removes the Tier 2 requirements that were listed in Version 5.0. All of this was done without any public feedback process. AHAM does not necessarily oppose the substance of the changes that were made, but does vigorously oppose the lack of process for making those changes.

Given the timing of the test method for determining residential dishwasher cleaning performance, it seems unlikely that EPA would have been able to meet the January 1, 2014, effective date for the planned Tier 2 level in the Version 5.0 specification. But EPA should still seek comment from stakeholders prior to removing eligibility criteria from the specification. When EPA decided to drop the July 1, 2011, Tier 2 levels, AHAM, together with energy and water efficiency advocates, commented on March 4, 2011, that doing so undercuts the credibility and stability of the ENERGY STAR program:

If ENERGY STAR changes the specification at this late date, it will result in market disruption and the potential for stranded investments. Manufacturers took the previous Tier 2 proposal seriously. To change things now risks stranding some of their investments and also could make manufacturers less willing to invest in Tier 2 products in the future, undermining the rapid progress that Tier 2 standards are designed to foster.

In comments on the same specification change, dated April 8, 2011, AHAM also questioned “whether any two tiered specification will be honored by ENERGY STAR based on the” then-proposed changes to the Tier 2 level which was scheduled to go into effect only months after the proposed change. It appears, given this Version 5.1 “update,” that that concern was well-founded.

Nevertheless, given the new realities related to timing, AHAM does not object to removing the Tier 2 levels at this time. But, rather than simply remove the levels, EPA should have sought feedback from stakeholders through a transparent process. EPA should now give stakeholders clarity regarding the projected timeline for the Specification 6.0 development, including whether the energy and water levels required for eligibility will be adjusted as part of that revision. And EPA should seek feedback, through a transparent and formal process, from stakeholders in so doing.

Similarly, we understand that it is necessary to transition to Appendix C1 given that manufacturers will be required to use that test procedure on May 30, 2013, and it seems unlikely that a Version 6.0 ENERGY STAR specification will be done prior to that time. But, AHAM notes that it has petitioned DOE regarding Appendix C1, arguing that it impacts measured energy. That petition has yet to be decided by DOE. Given the uncertainty that results from the status of that petition, it does not seem prudent that EPA would issue a revision to the specification without seeking input from stakeholders. This is especially true given that AHAM

has argued that the test procedure could impact measured energy. If DOE decides to grant the AHAM petition, it would be necessary to consider that impact on measured energy so that the stringency of the Version 5.0 (or now 5.1) qualification criteria remains the same. Thus, we strongly oppose the lack of process EPA used to make this significant change.

It is not appropriate for EPA to act unilaterally to make these types of substantive changes. Nor is the fact that the ENERGY STAR program is a “voluntary program” (though, as a matter of marketplace reality and due to the success of the program, it is in fact mandatory) a justification for such unilateral action—in fact, because the program is a *partnership*, stakeholder feedback should be paramount, even for what may seem at first glance like a simple change. This lack of transparency highlights the need for the ENERGY STAR program to be administered under a more formal process. We do not suggest a process as stringent as the Administrative Procedures Act, but there must be some process under which comments are required to be sought, considered, and responded to before specifications are changed.

II. DOE Final Draft Test Method--Test Setup (Section 4)

A. Cleaning Performance Rating Conditions

DOE again proposed that the lighting setup in the evaluation room be according to IEC Standard 60436. AHAM previously suggested that, regardless of whether DOE adopted AHAM’s suggestion to cite the lighting setup in ANSI/AHAM DW-1-2010 (AHAM DW-1-2010), DOE cite the note to AHAM DW-1-2010, section 5.1:

NOTE: For comparative purposes, the same individual should perform scoring in a given facility. If more than one technician is used for scoring, the test lab shall have a plan in place to eliminate bias in the scoring procedure. All scoring technicians should be experienced in use of this procedure. Technicians who have never conducted previous tests should familiarize themselves by conducting trial tests in order to gain experience.

DOE declined to cite this note stating that DOE and EPA cannot require a test lab to use only one technician for grading. DOE also stated that it “believes the instructions included in the test method and the referenced AHAM and IEC test procedures provide a basis for consistent grading.” AHAM continues to disagree. While we understand that DOE and EPA cannot *require* a test lab to use only one technician for grading, the note does not have such a requirement—instead, it is a suggestion (“the same individual *should* perform scoring in a given facility”) (emphasis added). Moreover, the main point of the note is that, where more than one technician is used for scoring, test labs shall have a plan in place to eliminate bias, thus reducing variation. In addition, it is critical that scoring technicians be experienced (or, to use the IEC language, “competent”) in the scoring procedure.

DOE states that it believes the instructions in the test procedures are enough. We are disappointed that DOE, based only on about 250 tests on 12 units, refuses to acknowledge what industry is collectively telling it based on running these tests *every day for more than a decade*. Accordingly, we must re-emphasize that it is critically important that the graders and the facility are consistent and that graders are trained and experienced in order to minimize variation in the test procedure. Introducing multiple graders introduces variation, especially if those graders have varying degrees of knowledge about the test. Accordingly, we again ask that DOE reference the

above note in the ENERGY STAR test procedure. We do not see any reason why DOE should not want to do what it can do reduce variation.

We are also disappointed that DOE did not conduct a round robin test, will not conduct a training workshop, and will not create a training video. The repeatability and reproducibility of the proposed test procedure have not been sufficiently tested and AHAM believes that there remain sources of variation, such as grader bias, that could be reduced with these measures.

B. Water Hardness

DOE continues to propose to require that the water hardness be as specified in AHAM DW-1-2010. AHAM agrees that there should be a water hardness requirement in the ENERGY STAR test procedure. Water hardness can affect measured energy and water consumption, and it has an even larger impact on wash performance. The absence of a water hardness requirement in the cleanability test procedure will be a significant source of variation, even beyond what we know to exist today under AHAM DW-1 (which contains a water hardness requirement). AHAM previously commented, however, that for consistency and to reduce variation in the energy test procedure, such a requirement should also be added to Appendix C1. Accordingly, AHAM requested, as part of the recent test procedure rulemaking, that DOE add a water hardness requirement to the energy test procedure.¹ DOE declined.

In DOE's response to stakeholder comments received on the ENERGY STAR Program Draft 2 test method for determining residential dishwasher cleaning performance, DOE stated that, because Appendix C1 does not specify a water hardness requirement during testing, the water hardness requirement specified in the ENERGY STAR test method is consistent with Appendix C1 and "cleaning performance tests conducted with water hardness as specified in the ENERGY STAR test method would be valid tests under" Appendix C1. AHAM agrees. But we reiterate that this is, in essence, back-door rulemaking for products that manufacturers seek to qualify for the ENERGY STAR because all such products will now be *required* to be tested with specified water hardness.

AHAM must also note that DOE indicated in its response to comments, that it "does not have any information indicating what impact, if any, water hardness may have on energy and water consumption, but may consider a water hardness requirement in the next DOE test procedure rulemaking." This is yet another reason why DOE should have revised Appendix C1 to include a water hardness requirement when it had the opportunity to do so. The issue of whether such a change would impact measured energy or water could have, and should have, been appropriately vetted during the rulemaking process. It is not appropriate for DOE to use the ENERGY STAR process to, effectively, set a regulatory requirement at any time, and especially not when DOE does not know the impact the change could have on measured energy or water.

AHAM thus reiterates that DOE should continue to specify water hardness in the ENERGY STAR cleanability test procedure, and, on a parallel path, should promptly amend Appendix C1

¹ See SNOPR for Test Procedures for Residential Dishwashers, Dehumidifiers, and Conventional Cooking Products; Docket No. EERE-2010-BT-TP-0039; RIN 1904-AC27, AHAM Comments (June 25, 2012 and Aug. 30, 2012).

so that the DOE test procedure is not improperly amended via an ENERGY STAR test procedure.

III. DOE Final Draft Test Method--Loading

DOE proposed that similar items all “be loaded in the racks consecutively without any empty rack spaces in between. Empty rack spaces between **different items** . . . are acceptable only if one, or both, of the following conditions are met: a) The capacity of the UUT is greater than the number of place settings required by [Appendix C1]. b) The manufacturer’s use and care guide for the UUT instructs the user to leave empty spaces while loading.” (emphasis in original).

AHAM previously commented that DOE needed to indicate criteria to limit the location of open spaces. We assume that this proposal is an attempt to do so, and we appreciate that it makes some progress. But it does not address our key concern, which is that open spaces should not be positioned in front of soiled load items. An open space in front of soiled load items could result in improved water spray to the adjacent soiled surface, provide more favorable cleaning performance, and, thus, offer a means of test procedure circumvention. Accordingly, it is critical that DOE have criteria to limit the location of open spaces as related to soiled versus unsoiled items. Thus, we respectfully request that DOE add criteria to address the position of unsoiled versus soiled items in relation to empty rack spaces to the test procedure. We would be glad to work together with DOE to determine what those criteria should be.

IV. DOE Final Draft—Scoring

AHAM continues to believe that it is problematic to mix and match soiling procedures and scoring techniques from different test procedures and that DOE should use the AHAM DW-1-2010 scoring procedure for all of the reasons stated in our previous comments.

DOE stated during the webinar on October 16, 2012, and in the Draft Procedure, that recent testing at two different test laboratories indicated that the scoring procedure in IEC Standard 60436 is more repeatable than the scoring procedure in AHAM DW-1-2010. AHAM does not agree, and therefore, has sought to understand that conclusion. Thus, we requested that DOE provide the raw test data it relied on to make that conclusion because the summary slides that accompanied the October 16 presentation are not sufficient to aid in our understanding. (In fact, from the data DOE did present, we do not believe that DOE did sufficient testing to draw conclusions about repeatability or reproducibility.)

In response to our request for more data, DOE stated that it “has included more detailed data than are normally provided when developing an ENERGY STAR test method or DOE rulemaking.” In a transparent process, there should be no reason why more data cannot be provided to stakeholders. The data on the slides is not easily read or sufficiently detailed to allow stakeholders to analyze and comment upon the data. Thus, we do not agree that more data was presented than in a DOE test procedure rulemaking. In any case, when stakeholders that have been conducting the test procedures at issue for years are seeking to understand DOE’s conclusion, it would seem like a special case in which DOE would provide more data than usual. With the data provided to date, we do not believe that DOE and EPA have allowed stakeholders

to understand the sources of variation in the proposed test procedure. There also is no reason to withhold data just because it is for an ENERGY STAR test procedure and specification change.

The fundamental source of the variation, leading to the selection of IEC scoring instead of AHAM scoring, has not been identified by DOE. Is there truly less variation from IEC scoring or does the AHAM scoring provide better detection of differences which the customer will see? Availability of round robin data would be valuable toward understanding the source of differences.

With regard to the calculation of per-cycle cleaning performance, AHAM continues to agree with DOE that the score should not weight the scores for any soil level over another. We would request that the final procedure make it expressly clear that there is to be no weighting.

V. DOE Final Draft—Cleaning Performance Score—Sampling Plan

DOE and EPA proposed a revised sampling plan, under which the number of units tested for qualification of cleaning performance would be consistent with the sampling plan specified in 10 C.F.R. 429.11 and 429.19. AHAM agrees with this approach and thanks the agencies for revising the proposal to be consistent with the sampling plan in DOE's regulations—that approach will provide consistency and clarity for stakeholders. As we previously commented, this approach will increase traditional testing burden. But we are willing to accept that burden because it is balanced by a simpler procedure and more accurate results.

For clarity, we suggest that in the draft Version 6.0, DOE and EPA make it very clear that the units tested for cleaning performance qualification must be the exact same units tested for energy and water qualification. In addition, the units tested for cleaning performance qualification must be tested at the same time (and therefore under the same test) and in the same quantity as those tested for energy and water qualification. The linkage of energy and water consumption data to cleaning performance data is essential.

DOE and EPA also proposed that the CPS_i to qualify both soil-sensing and non-soil sensing dishwashers be determined in accordance with the requirements specified in 10 C.F.R. 429.19(a)(2)(ii). AHAM agrees with this approach because it will ensure representative qualification scores and minimize false findings of non-compliance. We again thank DOE and EPA for adopting an approach consistent with our comments on the Draft 2 test procedure.

VI. DOE Final Draft—Verification Testing Requirements

AHAM thanks DOE and EPA for discussing potential verification testing requirements for dishwasher cleaning performance, per AHAM's request. DOE and EPA proposed to adopt the ENERGY STAR verification testing requirements for dishwasher cleaning performance. AHAM had proposed that DOE and EPA adjust the tolerance requirements, if necessary. DOE and EPA's current proposal is not to change the tolerance requirements.

AHAM agrees that the ENERGY STAR verification testing requirements should be applied to dishwasher cleaning performance. But we cannot comment on whether the tolerance

requirements should be changed until we fully understand the repeatability and reproducibility of the test procedure. This is yet another reason we wish DOE would conduct round robin testing—to date AHAM does not fully understand the sources and magnitude of variation. Should we be able to identify those, we will provide further comment as part of the Version 6.0 specification development process.

We also ask that DOE and EPA clarify whether cleaning performance laboratories will need a specific level of certification in order to perform performance tests for ENERGY STAR purposes. We expect that it would be enough for the laboratory to be certified under ISO 17025, but seek clarification on that point.

VII. EPA Data Collection

EPA is seeking to assemble a dataset specific to cleaning performance of current ENERGY STAR qualified residential dishwashers. EPA is seeking data to help develop levels for cleaning performance and has requested the data, in a detailed format, from manufacturers by May 31, 2013.

AHAM agrees that such data will be necessary to set a performance threshold for meeting ENERGY STAR qualification levels. But requiring the data by May 31, 2013, is not enough time for manufacturers to gather the data, especially because the date on which manufacturers must comply with new DOE energy and water standards using the revised test procedure is the day before that date. Manufacturers are busy in the lab testing and certifying units for the transition to the standards. Accordingly, there may not be adequate lab time and space to do the amount of testing that would be required to give EPA the data it seeks. Given these factors, we suggest that EPA allow manufacturers several more months to submit data.

It would also be helpful for manufacturers to better understand how the data will be used. For example, will it be confidential and shared only on a de-identified basis? Will EPA share the data with stakeholders at all? What is the timeline for development? We also question whether EPA really needs the detailed level of data it requested—a simpler report form well-tailored to provide only the necessary data would ease the burden on manufacturers in collecting and providing the data EPA requests.

AHAM appreciates the opportunity to submit comments on the ENERGY STAR Draft Final Test Method for Determining Residential Dishwasher Cleaning Performance, and would be glad to further discuss these matters should you so request.

Best Regards,



Jennifer Cleary
Director, Regulatory Affairs