Appliance Standards Awareness Project
American Council for an Energy-Efficient Economy
National Consumer Law Center, on behalf of its low-income clients
Natural Resources Defense Council

February 22, 2022

Mr. Bryan Berringer
U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy
Building Technologies Office, EE-5B
1000 Independence Avenue SW
Washington, DC 20585

RE: Docket Number EERE–2016–BT–TP–0012/RIN 1904–AD96: Notice of Proposed Rulemaking for Test Procedure for Dishwashers

Dear Mr. Berringer:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP), American Council for an Energy-Efficient Economy (ACEEE), National Consumer Law Center, on behalf of its low-income clients (NCLC), and Natural Resources Defense Council (NRDC) on the notice of proposed rulemaking (NOPR) for the test procedure for dishwashers. 86 Fed. Reg. 72738 (December 22, 2021). We appreciate the opportunity to provide input to the Department.

We support DOE's proposal to incorporate a water hardness requirement for testing. The current test procedure does not specify a water hardness requirement; however, variability in water hardness across testing facilities has the potential to affect the reproducibility of test results.[1] Therefore, DOE is proposing to require a maximum water hardness of 85 ppm of calcium carbonate, which is consistent with the specification in ANSI/AHAM DW-1-2020. We agree that this proposed change will add clarity to the test procedure and help reduce potential variability across testing facilities.

We support the proposal to add specificity to the test procedure regarding the loading pattern. Currently, the test procedure requires loading according to the manufacturer's recommendation.[2] In the August 2019 request for information, DOE recognized that the positioning of soiled items relative to clean items may impact soil sensor responses but noted that manufacturers do not provide instructions for a loading mix of soiled and unsoiled items.[3] The lack of specificity with regards to loading pattern can impact repeatability and

[1] 86 Fed. Reg. 72743.
[2] 86 Fed. Reg. 72751.
[3] 84 Fed. Reg. 43076. August 20, 2019.

reproducibility of test results. Therefore, we support the proposal to include the loading pattern requirements specified in the ENERGY STAR Cleaning Performance Test Method which are also referenced in AHAM DW-1-2020.

We support DOE's proposal to adopt a cleaning performance test method and cleaning index threshold to validate the cleaning performance of the tested cycle. As DOE describes in the NOPR, the normal cycle of a dishwasher may not always meet consumer expectations of cleaning performance.[4] In this scenario, consumers may shift from using the normal wash cycle to a more energy- and water-intensive mode, which would mean that testing on the normal cycle would not be representative. Therefore, we support DOE's proposal to adopt the ENERGY STAR Cleaning Performance Test Method to help validate the cleaning performance of the tested cycle.

Using DOE test data on cleaning performance and consumer cycle selection data provided by manufacturers, DOE determined that a cleaning index threshold of 65 would be appropriate to constitute a valid test cycle. If the test cycle at a particular soil level does not meet this threshold, the soil level would need to be re-tested using the most energy-intensive cycle that meets the cleaning index threshold. We believe that a minimum cleaning index of 65 is a reasonable threshold, based on the data available to DOE, and that implementing a cleaning performance threshold will result in tested cycles that are more representative of energy and water consumption during consumer use.

We agree with the approach that DOE is proposing to use for standby mode and off mode testing. The current test procedure does not specify whether standby and off mode testing should be conducted with the dishwasher door open or closed.[5] DOE is proposing to reference the requirements in AHAM DW-1-2020 which specify that the dishwasher door must be opened and then immediately closed prior to starting the standby mode and off mode tests. This proposed amendment will help improve reproducibility of the test procedure by ensuring that all manufacturers are testing standby mode and off mode power in a consistent manner.

We urge DOE to require that all dishwashers be tested with the connected functions in the "as shipped" condition. For dishwashers with connected functionality, DOE is proposing to require that all network functions be disabled during testing by means provided in the user manual. If the user manual does not provide instructions for disabling the network functions, the standby power mode test would be conducted with the connected functions in the "as-shipped" condition.[6] We are concerned that DOE's proposal would allow many dishwashers to be tested with network functions disabled even though those functions may be unlikely to be disabled in the field. Specifically, if a dishwasher with connected features is shipped with those features enabled, we believe that it is unlikely that most consumers will take the necessary steps to disable those features. Such a scenario would result in the test procedure being

[4] 86 Fed. Reg. 72756-72757.
[5] 86 Fed. Reg. 72761.
[6] 86 Fed. Reg. 72762.

unrepresentative of the model's standby power consumption. We therefore urge DOE to require that all dishwashers be tested "as shipped," regardless of whether the user manual provides instructions for disabling the network functions. Testing all dishwashers "as shipped" will help provide a more representative measurement of energy use of the product as it is being used by consumers.

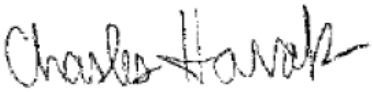
We encourage DOE to use assumptions for water heater efficiencies that better reflect real world water heater efficiencies. Currently, the test procedure for dishwashers assumes water heater efficiencies of 100% and 75% for electric and gas water heaters, respectively, to calculate the energy use from hot water heating.[7] Based on the current water heater models listed in DOE's Compliance Certification Database, we believe the efficiency assumptions in the test procedure are higher than those found in the existing housing stock, thereby underestimating the energy use associated with water heating. Specifically, as we described in our comments on the clothes washers test procedures NOPR,[8] we estimate that the shipment-weighted efficiencies for new water heaters are 92% and 64% for electric and gas water heaters, respectively. Updating the water heater efficiency assumptions to better reflect the real world would help improve representativeness of the test procedure and more accurately reflect the relative contribution of water heating energy use to the total dishwasher energy use.

Thank you for considering these comments.

Sincerely,

Kanchan Swaroop
Technical Advocacy Associate
Appliance Standards Awareness Project

Amber Wood
Director, Buildings Program
American Council for an Energy-Efficient Economy



Charles Harak, Esq.
National Consumer Law Center
(On behalf of its low-income clients)

Edward R. Osann
Senior Policy Analyst
Natural Resources Defense Council

[7] 10 CFR 430, Subpart B, Appendix C1.
[8] https://www.regulations.gov/comment/EERE-2016-BT-TP-0011-0028.