

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

February 17, 2022

Dr. Stephanie Johnson
U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy
Building Technologies Office, EE-2J
1000 Independence Avenue SW
Washington, DC 20585

RE: Docket Number EERE–2021–BT–TP–0023/RIN 1904–AF18: Notice of Proposed Rulemaking for Test Procedures for Cooking Products

Dear Dr. Johnson:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP), American Council for an Energy-Efficient Economy (ACEEE), Consumer Federation of America (CFA), 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 test procedures for cooking products. 86 Fed. Reg. 60974 (November 4, 2021). We appreciate the opportunity to provide input to the Department.

We appreciate DOE’s work to develop representative, repeatable, and reproducible test procedures for electric and gas cooktops. We support the proposed test methods outlined in the NOPR and urge DOE to expeditiously finalize the proposed test procedures. There are currently no performance-based efficiency standards in place for cooktops, and DOE has missed its legal deadline for publishing a final rule for standards.¹ Performance-based standards have the potential to achieve significantly greater savings than prescriptive requirements; however, performance-based test procedures are required for DOE to establish these standards. DOE has conducted significant round robin testing and has found the proposed test procedures to be adequately repeatable and reproducible without being overly burdensome to conduct. Therefore, we urge DOE to finalize the test procedures for cooktops as soon as possible to allow the Department to develop standards that can deliver large energy savings.

Below we provide our comments on various issues on which DOE has sought comment in the NOPR.

¹ https://appliance-standards.org/sites/default/files/Missed_deadlines_as_of_March_2021.pdf.

We support the proposed test vessels and test vessel selection method for electric and gas cooktops. We understand that test methods for gas and electric cooktops will have some differences, but we appreciate that DOE is attempting to align the two test methods to the extent possible. One way DOE is proposing to align the two test procedures is to utilize the test vessels specified in IEC 60350-2:2017 for both electric and gas cooktops. We believe that using a consistent set of test vessels across all cooktops can provide more accurate comparisons between cooktop models across different product types.

DOE is proposing to exclude the provisions from Section 7.3 of IEC 60350-2:2017 and instead simplify the test vessel selection criteria for both electric and gas cooktops. For electric cooktops that have markings to indicate cooking zones, DOE is proposing to require using the test vessel whose outer diameter most closely matches the outer diameter of the cooking zone. For electric cooktops that do not have explicit markings to indicate cooking zones, the test vessels will be based on the number of controls on the cooktop.² For gas cooktops, the proposed method for selecting a test vessel is based on the gas burner's heat input rate.³ We believe these are reasonable methods for selecting test vessels that will improve reproducibility while simplifying the test vessel selection process for manufacturers. In the future, we encourage DOE to investigate methods for testing non-circular cooking zones as well to fully encapsulate the energy consumption of all cooking zones in the test procedure.

We generally support the proposed temperature specifications and tolerances for the room temperature, product temperature, and initial water temperature. The IEC 60350-2:2017 test method specifies an ambient room temperature of $23\pm 2^{\circ}\text{C}$.⁴ However, in this NOPR, DOE has tentatively determined that aligning the required ambient room temperature with the temperature required for certain safety testing that manufacturers are likely conducting ($25\pm 5^{\circ}\text{C}$) will likely reduce test burden relative to the IEC specification without affecting repeatability and reproducibility.⁵ Because of the proposed relaxation of the tolerance compared to the IEC method, DOE is proposing to specify a target ambient room temperature that is the nominal midpoint of the temperature range (25°C). We support the target temperature specification; however, we are concerned that the target temperature specification may not do enough to prevent test laboratories from testing at extremes of the tolerance, which could potentially affect reproducibility. Therefore, we encourage DOE to consider providing instructions on how to best reach the target temperature or more specificity around what it means to target the midpoint of the temperature range.

DOE is proposing to require that the product temperature be stable (no variation by more than 1°C over a 5-minute period) and the initial water temperature be $25\pm 0.5^{\circ}\text{C}$. We support these specifications and agree that the tolerance for the initial water temperature must be held to $\pm 0.5^{\circ}\text{C}$, as specified in the IEC test method, in order to minimize variability across testing.

² 86 Fed. Reg. 60983.

³ 86 Fed. Reg. 60988.

⁴ 86 Fed. Reg. 60983.

⁵ Ibid.

We strongly support DOE’s proposal to include a simmer test with an optional simmering setting pre-selection test for both electric and gas cooktop test procedures. DOE is proposing to include a 20-minute simmering period after an initial heat-up period which will encompass the energy consumption measurement. In discussions during the Association of Home Appliance Manufacturers (AHAM) cooking product task force, DOE presented data showing that the simmer test can produce a different rank order of products than just the heat-up test alone and can therefore assist in differentiating among different cooktop models. In addition, DOE has found in their round robin testing that the inclusion of a simmer test continues to produce repeatable and reproducible results.⁶ It is critical for the test procedure to be representative of how consumers will be using the products in the real world. Therefore, we strongly support the inclusion of a simmer period as proposed in the NOPR.

The simmer test as detailed in the IEC test method requires repeated test cycles to determine the simmering setting. DOE is proposing to implement an optional pre-selection test which would help determine the first setting used to conduct tests to identify the simmering setting. This would reduce the number of test cycles needed to as few as 2, which will greatly reduce test burden for manufacturers, while maintaining representativeness.⁷

We agree with the proposed process for adjusting the burner heat input rate for gas cooktops. Previous test procedures for gas cooktops did not include a tolerance on the regulator outlet pressure or specifications for the nominal heat input rate for burners. DOE tentatively determined that the lack of specifications on the nominal heat input rate likely negatively affected the reproducibility of the test results. Therefore, DOE is proposing to require that the measured heat input rate be adjusted to within 2% of the nominal heat input rate. In their initial round robin testing from January 2020, which did not include the burner heat input rate adjustment process, DOE observed reproducibility coefficients of variation (COVs) that ranged from 4.0-8.9%. DOE’s latest round robin testing from May 2021 showed considerable reduction in variability for gas cooktops when the burner heat input rate adjustment method is used.⁸ Therefore, we support the inclusion of specifications for the heat input rate and the 2% tolerance on the heat input rate.

We do not support using a usage factor to determine simmer energy. In the NOPR, DOE outlines alternate approaches to the simmer test, one of which would use a simmering usage factor to estimate the energy consumption from the simmering phase.⁹ In this case, a usage factor, which would be a fraction of the heat-up energy, would be applied to the measured energy use in order to determine the total energy consumption of the cooktop. We agree with DOE that a representative simmer usage factor would be difficult to define due to the variability of cooktops and cooking zones. In addition, a simmer usage factor would not accomplish the

⁶ See 86 Fed. Reg. 60980. Table III.2. and <https://www.regulations.gov/document/EERE-2021-BT-TP-0023-0004> for summary of variability in round robin testing.

⁷ 86 Fed. Reg. 60985.

⁸ 86 Fed. Reg. 71407-71408. (December 16, 2021). In the second round robin testing program, reproducibility COVs were under 4% for the majority of cooktops tested.

⁹ 86 Fed. Reg. 60997.

same goals as a simmer test. As mentioned above, the inclusion of a simmer test may change the relative ranking of products compared to a heat-up only test. If a usage factor were applied instead of a simmer test, a consistent factor would be used for each product type to scale up the energy consumption value, which would fail to reflect differences in simmer energy between models of the same product type.

We encourage DOE to initiate work to develop a test procedure for conventional ovens. Like consumer cooktops, there are currently no test procedures or performance-based standards in place for conventional ovens. The current energy conservation standard for conventional ovens was established in 2009 and solely prohibits a standing pilot light.¹⁰ Developing a test procedure for conventional ovens will allow DOE to set performance-based standards in the future and could lead to significant energy savings across this product category.

Thank you for considering these comments.

Sincerely,



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¹⁰ 81 Fed. Reg. 60791. (September 2, 2016).