Appliance Standards Awareness Project
Consumers Union
National Consumer Law Center
Natural Resources Defense Council
Northwest Energy Efficiency Alliance

July 19, 2018

Celia Sher
Appliance and Equipment Standards Program
U.S. Department of Energy
Building Technologies Office, EE-5B
1000 Independence Avenue, SW
Washington, DC 20585

RE: Energy Conservation Program: Test Procedures for Cooking Products, Notification of Petition for Rulemaking

Dear Ms. Sher:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP), Consumers Union (CU), National Consumer Law Center (NCLC), Natural Resources Defense Council (NRDC), and Northwest Energy Efficiency Alliance (NEEA) on the notification of petition for rulemaking for cooking products. 83 Fed. Reg. 17944 (April 25, 2018). We appreciate the opportunity to provide input to the Department.

AHAM submitted a petition to DOE requesting that the Department withdraw, and immediately stay the effectiveness of, the conventional cooking top test procedure. AHAM argues that based on their round robin testing, the test procedure is not repeatable or reproducible. DOE conducted significant investigation and testing during the cooking top test procedure rulemaking to evaluate repeatability and reproducibility, and AHAM acknowledges in their petition that their round robin testing did not completely follow the DOE test procedure. Therefore, it is difficult for us to determine whether AHAM's claims are valid. However, if DOE concludes that AHAM's test results may raise concerns related to repeatability and/or reproducibility, DOE could conduct their own round robin testing to confirm that the test procedure is repeatable and reproducible. Even if DOE determines that additional investigation of repeatability and reproducibility is warranted, DOE should not withdraw the test procedure since without a test procedure, there is no way for consumers to have confidence in any manufacturer claims about efficiency or energy use. Further, an immediate stay of the effectiveness of the test procedure is unwarranted since manufacturers are not required to use the test procedure today.

DOE conducted a thorough, rigorous process to establish the cooking tops test procedure. DOE initiated the rulemaking for test procedures for cooking products in January 2013 with the publication of a NOPR. DOE subsequently published two SNOPRs—in December 2014 and August 2016—before issuing a final rule in December 2016. DOE also conducted a series of

interviews with manufacturers in February and March 2015.[1] DOE originally proposed to replace the solid aluminum test block used in the old test procedure with a hybrid test block (with a stainless steel base) to allow for testing induction cooking tops. However, in response to comments from manufacturers and other stakeholders, DOE ultimately proposed and adopted a water-heating test method that aligns with an international test standard.[2] As described below, DOE also conducted significant investigation and testing to evaluate repeatability and reproducibility.

DOE conducted significant investigation and testing to evaluate repeatability and reproducibility and to consider potential sources of variability raised in comments from manufacturers. For the August 2016 SNOPR, DOE evaluated round robin testing conducted by the European Committee of Domestic Equipment Manufacturers (CECED) on electric cooking tops. The CECED round robin tested three different cooking top technologies at 12 different test facilities. The average standard deviation and the average reproducibility of the measured energy consumption were both less than 3% for each of the cooking top technologies.[3] DOE noted in the test procedure final rule that "the electric cooking top controls and technologies available on the U.S. market are the same or similar to those available in Europe."[4]

AHAM commented that its round robin testing showed a much higher variance in test results.[5] In order to evaluate these concerns. DOE conducted additional testing in advance of publication of the final rule. In DOE's testing, they included five electric cooking tops encompassing different heating technologies and control types, and they varied test operators for surface unit tests. DOE found that the average coefficient of variation was 1.2%, and in no case did it exceed 2.0% for any surface unit. Based on these results along with the CECED data, DOE concluded that the water-heating test method was repeatable and reproducible.[6]

Nevertheless, DOE conducted further testing to try to evaluate specific test conditions that could have contributed to the variation in test results in AHAM's round robin testing. In particular, AHAM commented that turndown temperature, determining the simmering setting, and heating element cycling all cause variability in test results. DOE evaluated each of these test conditions and determined that they do not introduce any significant source of variability. Specifically, DOE found the following:

- Turndown temperature: AHAM commented that there is variability in determining the turndown temperature. DOE conducted tests to investigate the impact of turndown temperature variations and found a coefficient of variation of less than 1% for variations in turndown temperature that were within allowable tolerances.[7]
- Determining the simmering setting: AHAM commented that the simmering setting determined for the simmer phase is not consistent from lab to lab. DOE found that only a single setting achieved a water temperature that met the requirements of the simmering

[1] 81 Fed. Reg. 91420 (December 16, 2016).
[2] EN 60350-2:2013.
[3] 81 Fed. Reg. 57383-84.
[4] 81 Fed. Reg. 91426.
[5] 81 Fed. Reg. 91425.
[6] 81 Fed. Reg. 91426.
[7] 81 Fed. Reg. 91426-27.

phase of the test. The final rule explains that "DOE expects that correctly following the methodology of starting with the lowest simmering setting and repeating the test as necessary with the next highest setting until the setting that maintains the water temperature above but as close as possible to 90 °C is identified, will result in only a single appropriate simmering setting for a given surface unit."[8]

- Heating element cycling: AHAM commented that cycling of power to the heating element causes variation in test results. DOE observed that during the heat-up phase of the test, only one electric smooth radiant surface unit cycled on and off. DOE noted that "after cycling off, the heating element cycled back on within a few seconds and, as a result, the water temperature continued to rise at a fairly steady rate. DOE concludes from the infrequency of heating element cycling during the heat-up phase that it observed among all electric cooking tops during testing that it is unlikely that other electric smooth-radiant cooking tops would require any substantive amount of heating element cycling to protect the glass surface."[9]

In the final rule, DOE also incorporated suggestions from AHAM to improve clarity and accuracy, including clarifying when the simmering period starts, temperature sensor requirements, and the measurement of surface unit diameter.[10]

We cannot evaluate whether AHAM's claims that the test procedure is not repeatable and reproducible are valid. DOE noted in the test procedures final rule that "the variation in test results observed in AHAM's round robin testing may be related to the lack of familiarity with the test method rather than variability inherent to the test method itself."[11] Further, AHAM acknowledges in their petition that their round robin testing did not completely follow the DOE test procedure. Specifically, AHAM states in their petition: "AHAM's test plan called for running the test differently than the DOE test by having the first laboratory mark the turn down temperature it used. AHAM understands that this is not fully consistent with DOE's test procedure."[12] AHAM also acknowledges in their petition that in their initial round robin, "laboratories did not start at the lowest simmering setting—laboratories started at the lowest setting they believed would be able to maintain a water temperature as close as possible to 90 ^{o}C."[13]

As described above, DOE conducted significant investigation and testing during the test procedure rulemaking to evaluate the repeatability and reproducibility of the water-heating test method, including evaluation of specific issues raised by AHAM. However, if DOE determines that AHAM's round robin test results described in their petition may raise concerns related to repeatability and reproducibility, DOE could conduct their own round robin testing to confirm that the test procedure is repeatable and reproducible.

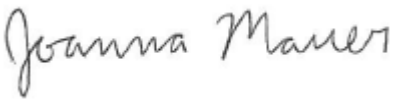
[8] 81 Fed. Reg. 91427-29.
[9] 81 Fed. Reg. 91430-31.
[10] *Ibid*.
[11] 81 Fed. Reg. 91432.
[12] 83 Fed. Reg. 17951-52.
[13] 83 Fed. Reg. 17955.

DOE should <u>not</u> withdraw the test procedure, and an immediate stay of the test procedure is unwarranted. Even if DOE determines that additional investigation of repeatability and reproducibility is warranted, DOE should not withdraw the test procedure. Withdrawing the test procedure would hurt consumers since without a DOE test procedure, there is no way for consumers to have confidence in any manufacturer claims about efficiency or energy use. Further, there are currently no energy performance standards for cooking tops. Therefore, manufacturers are not required to use the test procedure today; they must use it only if they want to make claims about energy use or efficiency performance. Therefore, an immediate stay of the test procedure is unnecessary.

It makes sense for the test procedures for electric and gas cooking tops to be aligned. AHAM also argues in their petition that the test procedure for gas cooking tops, which is based on the international water-heating test method for electric cooking tops, is not representative.[14] Gas and electric cooking tops provide the same service of cooking food, and we are not aware of any information suggesting that consumers use gas and electric cooking tops differently. Therefore, we believe that it makes sense for the test procedures for electric and gas cooking tops to be aligned to the extent possible.

Thank you for considering these comments.

Sincerely,



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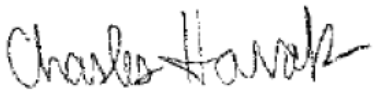

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[14] 83 Fed. Reg. 17948.