Submitted via regulations.gov

May 19, 2023

U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy
Building Technologies Office, EE-5B
1000 Independence Avenue SW
Washington, DC 20585-0121

Re: Petition Filed in *Energy Conservation Program: Notification of Petition for Rulemaking,* EERE–2023–BT–TP–0006

Dr. Carl Shapiro:

The American Gas Association ("AGA"), American Public Gas Association ("APGA"), National Propane Gas Association ("NPGA"), Spire Inc., Spire Missouri Inc., and Spire Alabama Inc. (collectively, "Joint Commenters") respectfully file this letter as a response to certain proposals addressed in *Energy Conservation Program: Notification of Petition for Rulemaking; Request for Comment,* EERE–2023–BT–TP–0006.[1] The Notice by the Office of Energy Efficiency and Renewable Energy ("EERE"), Department of Energy ("DOE") on April 19, 2023 concerns a Petition filed by the Association of Home Appliance Manufacturers ("AHAM") on January 12, 2023, to consider amendments to the conventional cooking products test procedure to allow a calculation in place of certain testing provisions for conventional cooking tops, clarify the definition of the term specialty cooking zone, clarify the equipment used to measure electric coil heating element diameter, and stay the effectiveness of any mandatory use of the test procedure ("AHAM Petition"). As discussed herein, DOE should consider approving the aspect of the AHAM Petition that would allow a calculation to be used as an alternative to the simmer portion of the test at 10 CFR part 430, subpart B, appendix I1 ("appendix I1") in order to determine the energy consumption of each cooking zone for conventional cooking tops. In addition, Joint Commenters support the request to stay the effectiveness of any mandatory use of the test procedure. Joint Commenters are also concerned with the process DOE took in delaying the publication of the AHAM Petition after the due date of DOE's request for comments on the proposal for new, minimum efficiency requirements for both gas and electric cooktops when there were and still are major concerns with the test method that DOE has finalized as the required

[1] *Energy Conservation Program: Notification of Petition for Rulemaking*, EERE–2023–BT–TP–0006, 88 Fed. Reg. 24133 (April 19, 2023) ("Notice").

methodology for determining the minimum efficiency requirements for consumer cooktops. These concerns are discussed in detail below and in the appended items.[2]

Identity and Interest

AGA, founded in 1918, represents more than 200 local energy companies that deliver clean natural gas throughout the United States. There are more than 77 million residential, commercial and industrial natural gas customers in the U.S., of which 96 percent — more than 74 million customers — receive their gas from AGA members. AGA is an advocate for natural gas utility companies and their customers and provides a broad range of programs and services for member natural gas pipelines, marketers, gatherers, international natural gas companies, and industry associates. Today, natural gas meets nearly one-third of the United States' energy needs.[3]

APGA is the trade association for more than 730 communities across the U.S. that own and operate their retail natural gas distribution entities. They include not-for-profit gas distribution systems owned by municipalities and other local government entities, all locally accountable to the citizens they serve. Public gas systems focus on providing safe, reliable, and affordable energy to their customers and support their communities by delivering fuel to be used for cooking, clothes drying, and space and water heating, as well as for various commercial and industrial applications.[4]

NPGA is the national trade association of the propane industry with a membership of about 2,500 companies, and 36 state and regional associations representing members in all 50 states. NPGA's membership includes retail marketers of propane gas who deliver the fuel to the consumer, propane producers, transporters and wholesalers, and manufacturers and distributors of equipment, containers, and appliances. Propane, or liquefied petroleum gas, is used in millions of installations nationwide for home and commercial heating and cooking as well as various other agricultural, industrial, and transportation sectors.[5] The variety of appliances powered by propane include the furnaces subject to the agency's proposal.

Spire Inc., Spire Missouri Inc., and Spire Alabama Inc. (collectively "Spire") are in the natural gas utility business. Spire Inc. owns and operates natural gas utilities that distribute natural gas to over 1.7 million residential, commercial, and institutional customers across Missouri, Alabama, and Mississippi, and Spire Missouri Inc. and Spire Alabama Inc. are the largest natural

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[2] Appended to this submission and incorporated herein are the comments filed by the Joint Commenters in response to *Energy Conservation Program: Energy Conservation Standards for Consumer Conventional Cooking Products*, EERE-2014-BT-STD-0005, RIN 1904–AD15, 88 Fed. Reg. 6,818 (Feb. 1, 2023). Specifically: Attachment A – Comments of the American Gas Association in EERE–2014–BT–STD–0005 (April 17, 2023) (Doc ID EERE-2014-BT-STD-0005-2279); Attachment B - Comments of the American Public Gas Association in EERE–2014–BT–STD–0005 (April 17, 2023) (Doc ID EERE-2014-BT-STD-0005-2283); Attachment C - Comments of the National Propane Gas Association in EERE–2014–BT–STD–0005 (April 17, 2023) (Doc ID EERE-2014-BT-STD-0005-2270); and Attachment D - Comments of Spire Inc., Spire Missouri Inc., and Spire Alabama Inc. in EERE–2014–BT–STD–0005 (April 17, 2023) (Doc ID EERE-2014-BT-STD-0005-2710). Attachment A is submitted in three parts due to the file size.

[3] For more information, please visit www.aga.org.

[4] For more information, please visit www.apga.org.

[5] NATIONAL PROPANE GAS ASSOCIATION, TODAY'S PROPANE (2017), *available at* https://npga.wpengine.com/wp-content/uploads/2017/08/NPGA-Todays-Propane-2017.pdf.

gas utilities serving residential, commercial, and institutional customers in Missouri and Alabama, respectively.

Request to Allow a Calculation to be Used as an Alternative to the Simmer Portion of the Test to Determine the Energy Consumption of Each Cooking Zone

In the docket for the AHAM Petition, DOE provided a data summary[6] for purposes of evaluating the merits of establishing a calculation method as an alternative to the simmer portion of the test. In particular, the report "provides graphical representations of the difference between measured results—representing the appendix I1 test conducted in its entirety—and results calculated using the alternative method suggested by AHAM, for each cooking zone for which data was available in both AHAM's and DOE's test samples." Use of the AHAM-recommended equation requires that the value "E90" be measured (the energy consumption at the maximum power/input setting until the water temperature reaches 90 degrees Celsius (°C)). E90 is not a value that is typically measured as part of running the appendix I1 test procedure. In reviewing the data summary, the comparative results indicate close correlation between the calculation method proposed by AHAM and the results of the simmer portion of the actual conducted test. With this close correlation, the use of the alternative method appears to be an acceptable approach for determining the factor and would reduce the testing time without compromising the energy consumption results. Therefore, the addition of the proposed calculation alternative should be included in the cooktop test methodology as an appropriate approach to determine the E90 value.

DOE Should Issue a Stay on the Effectiveness of Any Mandatory Use of the Test Procedure

Due to the many concerns with the current consumer cooktop test procedure, Joint Commenters support the AHAM request that DOE stay the effectiveness of any mandatory use of the test procedure. Regarding the mandatory use of the test procedure for representations, under the Energy Policy and Conservation Act ("EPCA"), effective 180 days (about 6 months) after a test procedure is published in the Federal Register, representations regarding the energy use or efficiency of the covered product are required to be made in accordance with the new or amended test procedure.[7] The final rule establishing appendix I1 was published on August 22, 2022, which resulted in the February 20, 2023, representations compliance date.[8] While DOE rejected the AHAM request for a stay, the recent DOE supplemental notice of proposed rulemaking ("SNOPR")[9] provided a substantial amount of concern with the test procedure that DOE needs to address, especially since the results from the test method are used to determine the maximum annual energy use that cooktops must meet. It is crucial that the concerns be addressed in the test procedure prior to any issuance of a final rule for consumer cooktops, both electric and gas. It is also concerning that DOE held back publishing a notice of the AHAM Petition that was submitted on January 12, 2023, and proceeded to issue the SNOPR on February 1, 2023, with the knowledge

[6] Notice Attachment Energy Conservation Program For Consumer Products And Commercial And Industrial Equipment Conventional Cooking Products, Document ID EERE-2023-BT-TP-0006-0002, available at https://www.regulations.gov/document/EERE-2023-BT-TP-0006-0002.
[7] *See* 42 U.S.C. 6293(c)(2).
[8] *See Energy Conservation Program: Test Procedure for Cooking Products*, 87 Fed. Reg. 51492 (Aug. 22, 2022).
[9] *Energy Conservation Program: Energy Conservation Standards for Consumer Conventional Cooking Products*, 88 Fed Reg. 6818 (Feb. 1, 2023).

that there were substantial concerns with the test procedure as demonstrated in the AHAM Petition. The specific concerns expressed with the cooktop test procedure are outlined in the next section.

Concerns with the DOE Test Procedure for Cooktops

The issuance of the February 1, 2023, SNOPR and its potential impact on the appliance market resulted in an extensive review of the DOE test procedure. Joint Commenters contend that the methodology used to test the annual energy consumption of any cooktop is flawed because it includes a pre-determined bias against high capacity burners. As discussed in comment submitted in response to DOE's proposed standards for cooking products, the most obvious problem is that the test procedure requires that burners be operated at their maximum capacity to reach the designated test temperature of 90 degrees but then ignores the length of time required to do so, thereby ignoring one of the most important utilities high-capacity burners provide: the ability to reach desired cooking temperatures quickly and thus achieve significantly shorter overall cooking times.[10] In addition, the relationship between burner capacity and test vessel diameter has a significant impact on efficiency as measured by the test procedure, and it appears that the test vessel diameters specified in the test procedure effectively penalize high-capacity burners by limiting the measured efficiency they can achieve.[11] These are critical considerations, because high-capacity burners are features that consumers want on their gas cooktops because of the utility they bring to any kitchen.[12] They allow for the boiling of very large amounts of water without long wait times to reach a full boil. They also allow cookware to reach ideal surface temperatures for cooking normal portions of food while maintaining that temperature despite the initial shock from administering onto a pan room-temperature ingredients.

The test procedure is also flawed because it includes a pre-determined bias against gas as compared to electric burners. DOE's test procedure tests only one task: simmering specified quantities of water. Moreover, the test procedure effectively assumes that gas burners with input capacities of 14,300 Btu/h or more are only used to heat more than 1 gallon of water. This is enough water to cook between 1 and 2 pounds of dry pasta, more than enough servings for up to 8 people. Or, in terms of dry ingredients, this would translate to 9 pounds of food. The key concern is that, when compared to electric burners, most gas burners are tested with a larger mass of water despite simulating the same function. The typical electric cooktop includes a 6-inch (150mm) and a 9-inch (230mm) coil heating surface. Very high-end induction cooktops may come with a 10.25-inch (260mm) surface. The electric cooktops determine pot and water quantities based on the footprint of the coil. Gas cooktops use BTU content, which is not equal and not a comparable test.

[10] *See* Attachment D at 25.
[11] *See* Attachment D at 15-19.
[12] *See Energy Conservation Program: Energy Conservation Standards for Consumer Conventional Cooking Products*, 88 Fed Reg. 6818 at 6845 ("HIR burners provide unique consumer utility and allow consumers to perform high heat cooking activities such as searing and stir-frying. DOE is also aware that some consumers derive utility from continuous cast-iron grates, such as the ability to use heavy pans, or to shift cookware between burners without needing to lift them."). Also during the public meeting held pursuant to *Energy Conservation Program: Energy Conservation Standards for Consumer Conventional Cooking Products*, 88 Fed Reg. 6818, DOE noted that "high input rate burners provide consumer utility and allow consumers to perform high-heat cooking activities, so that would include searing or stir-frying, and it [the SNOPR] also discusses how consumers may derive utility from continuous cast-iron grates because consumers can use them to use heavy pans or shift cookware between burners without needing to lift them." Public meeting transcript at 58.

Table 3 – Sizes of standardized cookware and water amounts

Diameter of the cookware bottom (outside) mm	Diameter of the lid mm	Lid hole circle diameter mm	Number of holes on the circle	Total cookware height (outside) mm	Flatness of cookware bottom mm	Water load g	Cooking zone size category mm	Standardised cookware categories
120 ± 0,5	130 ± 1	80 ± 1	7	125 ± 0,5	≥ 0 < 0,075	650	≥ 100 < 130	A
150 ± 0,5	165 ± 1	110 ± 1	11	125 ± 0,5	≥ 0 < 0,075	1 030	≥ 130 < 160	
180 ± 0,5	200 ± 1	140 ± 1	16	125 ± 0,5	≥ 0 < 0,075	1 500	≥ 160 < 190	B
210 ± 0,5	230 ± 1	170 ± 1	22	125 ± 0,5	≥ 0 < 0,1	2 050	≥ 190 < 220	C
240 ± 0,5	265 ± 1	200 ± 1	29	125 ± 0,5	≥ 0 < 0,1	2 700	≥ 220 < 250	
270 ± 0,5	300 ± 1	230/210 [a] ± 1	18/18 [a]	125 ± 0,5	≥ 0 < 0,15	3 420	≥ 250 < 280	D
300 ± 0,5	330 ± 1	260/210 [a] ± 1	23/22 [a]	125 ± 0,5	≥ 0 < 0,15	4 240	≥ 280 < 310	
330 ± 0,5	365 ± 1	290/270 [a] ± 1	27/27 [a]	125 ± 0,5	≥ 0 < 0,15	5 140	≥ 310 ≤ 330	

[a] Number of holes are arranged on two hole circles.

Nominal gas burner input rate (Btu/h)		Test vessel diameter (mm)	Water load mass (g)
Minimum (>)	Maximum (≤)		
	5,600	210	2,050
5,600	8,050	240	2,700
8,050	14,300	270	3,420
14,300		300	4,240

The smallest burner on a gas cooktop uses an 8.25-inch (210 mm) pot with 2,050 grams (0.541 gallons) of water while an electric cooktop would test a 6-inch (150 mm) pot with half the water or 1,030 grams (0.272 gallons). The same is true for high-capacity burners which automatically use a 12-inch (300mm) pot and 4,240 grams (1.12 gallons). All 21 test cooktops have at least one burner with this pot, some with outputs between 15,000 and 25,000 Btu/h. This range in BTU is larger than the range DOE created for the test itself with only 8,600 Btu/h between the smallest pot and the largest one. Electric cooktops with coils that serve the same purpose

typically get a smaller pot that is 8 or 9 inches (210 or 240 mm) and receives 2,050 or 2,700 grams (0.713 gallons) of water. This means that the amount of water tested on a gas burner is 58% to 106% higher than the amount tested for a comparable electric cooktop, which is important in view of the test procedure's built-in bias against high capacity burners.

DOE's test also leaves room for the possibility of human error when testing cooktops . DOE's own test results for the 21 cooktops in the SNOPR do not clearly state if the appliances were pre-tested to determine the ideal settings for the cooktops. This results in an average of two tests for each burner that might include a higher energy consumption run than otherwise would have happened. Real-world usage of a cooktop might contain such errors on day one, but all users would have a learning curve that would fine-tune the use of a cooktop after the first use. DOE must include the pre-test in this rule's TSD to better understand their results and the impact they could have.

Conclusion

While these comments are in response the DOE's Notice on the AHAM Petition, the Joint Commenters request that DOE issue a stay on the current DOE test procedure for consumer cooking products and address the technical concerns that have been presented here and in response to the SNOPR. In addition, Joint Commenters request that until the concerns with the cooktop test method are corrected, that DOE not proceed with finalizing a minimum efficiency requirement for these products (if they have determined that a minimum efficiency requirement has been found to be technically feasible and economically justified). The correct measurement of the efficiency level for consumer cooktops is crucial since it is the cornerstone of efficiency regulations that have substantial ramifications on establishing accurate energy savings, and a cooktop found in noncompliance can result in severe penalties that must be verified with a test method that truly measures what it is supposed to measure.

Respectfully submitted,

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