

***ENERGY CONSERVATION PROGRAM:
NOTIFICATION OF PETITION FOR RULEMAKING
EERE-2023-BT-TP-0006***

**ATTACHMENT B
TO THE COMMENTS OF
AMERICAN GAS ASSOCIATION, AMERICAN PUBLIC GAS ASSOCIATION,
NATIONAL PROPANE GAS ASSOCIATION,
SPIRE INC., SPIRE MISSOURI INC., AND SPIRE ALABAMA INC.**

**COMMENTS OF THE AMERICAN PUBLIC GAS ASSOCIATION IN
EERE-2014-BT-STD-0005 (APRIL 17, 2023) (DOC ID EERE-2014-BT-STD-0005-2283)**



AMERICAN PUBLIC GAS ASSOCIATION

April 17, 2023

Mr. Carl Shapiro
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

Submission via [regulations.gov](https://www.regulations.gov)

Re: The Office of Energy Efficiency and Renewable Energy's Supplemental Notice of Proposed Rulemaking Pertaining to Energy Conservation Standards for Consumer Conventional Cooking Products [Docket Number EERE-2014-BT-STD-0005]

Dear Mr. Williams:

The American Public Gas Association ("APGA") appreciates the opportunity to provide comments in response to the Department of Energy's ("DOE") supplemental notice of proposed rulemaking ("SNOPR") pertaining to energy conservation standards ("ECS") for consumer conventional cooking products.¹

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 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.²

As energy providers for many homes that rely on gas-fired cooking products, APGA's members are critical stakeholders in this proceeding and offer the below comments, which support our request to withdraw the proposed ECS.

Background

Efficiency standards for many household appliances, including gas-fired cooking products, were established by Congress in the Energy Policy and Conservation Act of 1975, as amended ("EPCA" or "Act"), which also requires DOE periodically to review the standards to determine whether more stringent standards are warranted under the various criteria set forth in the statute.³ Congress required that

¹ 88 Fed. Reg. 6818 (Feb. 1, 2023).

² For more information, please visit www.apga.org.

³ 42 U.S.C. § 6295(f).

standards be “supported by substantial evidence,”⁴ which means evidence that “a reasonable mind might accept as adequate to support a conclusion.”⁵ Any new or amended energy conservation standard must be designed to achieve the maximum improvement in energy efficiency that DOE determines is technologically feasible and economically justified.⁶

Consumer cooking products’ test procedures and ECS have been at issue in DOE several previous rulemakings. As part of the mandated review of efficiency standards under EPCA, DOE prohibited constant burning lights for all gas cooking products in their 2009 Final Rule. In 2016, DOE removed this standard but proposed performance standards for conventional cooking tops, or maximum allowable integrated annual energy consumption (IAEC), without a finalized test procedure. In response to this 2016 rulemaking, APGA expressed concern that DOE violated its own Process Rule, which requires the agency to finalize related test procedures prior to proposing new standards. In addition, the standards in the 2016 SNOPR were unlikely to produce any real energy savings; rather, they would encourage fuel switching and place burden on the conventional cooking products industry and consumers.

In 2020, DOE issued a Notification of Proposed Determination (“NOPD”) in which the agency determined that amended ECS were not economically justified and would not result in a significant conservation of energy for consumer conventional cooking products. APGA expressed support for this NOPD and agreed that any benefits would be outweighed by the estimated negative impacts, such as the potential unavailability of certain product types for conventional ovens and a loss of certain functions that provide utility to consumers.

As DOE considers the proposed standards within the latest SNOPR, APGA will continue to advocate for achievable standards that promote energy efficient appliance standards and fair test procedures without encouraging fuel switching. Unfortunately, the agency has failed to do so in this SNOPR.

Comments

APGA appreciates DOE’s efforts to implement regulations that are intended to improve appliance energy efficiency, but it must do so in a cost-justified manner. APGA believes that DOE has made significant analytical, technical, and legal errors in the SNOPR. Accordingly, DOE must withdraw the SNOPR and address the underlying flaws in its analysis, as well as those in the corresponding test procedure, before a new proposal can be considered.

I. The underlying test procedure on which DOE based its proposed ECS is flawed.

APGA believes that the efficiency test procedures developed by DOE are a key element in establishing minimum efficiency ratings for appliances and equipment covered by federal law. Accordingly, the test procedures must be developed in an open and transparent manner, based on technically sound and fact-based data that result in methods that are repeatable and provide reliable and consistent results while not being unduly burdensome to conduct.

⁴ 42 U.S.C. § 6306(b).

⁵ *Consolo v. Fed. Maritime Comm’n*, 383 U.S. 607, 619-20 (1966); *NRDC v. Herrington*, 768 F.2d 1355, 1422 (D.C. Cir. 1985).

⁶ 42 U.S.C. 6295(o)(2)(A).

DOE issued a final test procedure on August 22, 2022, which incorporated some changes from what was initially proposed in November 2021.⁷ Before its finalization, APGA raised concerns that the test procedures for gas-fired cooking products did not appear to produce reliable and repeatable results.⁸ Unfortunately, the test procedure DOE failed to fully address these concerns, and have only become most apparent when applied to the rulemaking at hand.⁹

In fact, as developed, the test procedure appears to have an integrated bias against gas-fired ranges. The issues seem to have arisen from the fact that DOE attempted to fit a round peg in a square hole when it adapted an electric cooking tops test procedure¹⁰ to fit gas-fired appliances. According to the test procedure, each element of a given cooking top is to be tested individually. For electric cooking tops, the test is conducted by heating a specified water load in a standard test vessel. The test vessel size and amount of water needed to be heated is based on the diameter of the heating element. For gas-fired ranges, the test is conducted similarly, but the test vessel size and amount of water to be heated is instead based on the heat input rate of each burner.

The result of this difference in selection of test vessel and accompanying water load selection is that the average smallest element on an electric cook top is tested using a test vessel with a diameter of 150 mm holding 1,030 g of water. On the other hand, the smallest burner on a gas-fired cook top is tested using a test vessel with a diameter of 210-220 mm holding 2,050 g of water. This means, according to the test procedure, that the smallest gas element is required to heat twice as much water (i.e., work twice as hard) than the smallest electric burner. Correcting this difference in test vessel and accompanying water load selection is critical to more appropriately measuring efficiency from consumer cooking products and removing the inherent bias against gas-fired products.

Additionally, despite the DOE acknowledging that the test procedure as finalized has a fair amount of variation that the agency deemed acceptable, the technical support document (“TSD”) states that DOE did not include a tolerance or margin to account for this variation. During the public meeting, DOE staff also noted that they “did not account for variation in our specific outputs of the testing rate or just the tested values that what [sic] we looked at.”¹¹ APGA believes that such variation must also be incorporated into DOE’s analysis in order for the public to have confidence in the its conclusions.

Furthermore, APGA is very concerned with the precedent set when DOE tested some of the gas-fired cooking products before it even finalized the new test procedures. DOE issued a NOPR to update the test procedures on November 4, 2021.¹² On December 16, 2021, DOE extended the comment period and

⁷ 87 Fed. Reg. 51492. A correction notice to the test procedure, although not impactful to this particular point, was also issued on February 7, 2023. 88 Fed. Reg. 7846.

⁸ Comment letter from APGA and the American Gas Association (“AGA”) in response to DOE’s NOPR pertaining to test procedures for consumer cooking products (Feb. 17, 2022).

⁹ While DOE asserts in the TSD that “the test procedure yielded repeatable and reproducible results,” APGA believes that such results have a margin of error larger than what is generally accepted by the appliance manufacturing industry. Furthermore, in the case of these testing done in support of this ECS, DOE notes that it only tested each appliance once, which does not result in any manner to confirm the repeatability of the test procedure on the tested appliances that underly the SNOPR’s analysis,\.

¹⁰ See IEC Standard 60350-2 Edition 2, “Household electric appliances—Part 2: Hobs—Method for measuring performance.

¹¹ Public meeting transcript at p. 42.

¹² 86 Fed. Reg. 60974.

made available data relevant to the proposed test procedure.¹³ Then, on January 18, 2022, DOE again extended the comment period until February 17, 2022.¹⁴ As noted above, the final test procedure was not issued by DOE until August 2022, and included some changes from what was initially proposed in November 2021.¹⁵

Without knowing the exact day of testing, it is clear from the NODA that DOE tested at least 4 of the 21 gas cooking tops before the proposed test procedure was even issued; 6 of the 21 gas cooking tops before DOE finished accepting comments on the proposed test procedure; and 11 of the 21 gas cooking tops within 2.5 months of the close of the comment period on the proposed test procedure.¹⁶ All gas cooking tops were tested before DOE issued the final test procedure in August 2022.

It is not a far stretch for one to reach the following conclusions based on the above schedule of test procedure rulemaking: 1) that DOE predetermined a final test procedure for these appliances without consideration of public comment, 2) that DOE failed to follow its own process rules¹⁷ that require the finalization of a test procedure before issuing a proposed ECS (with the presumption that such proposed ECS would be based on the final test procedure), and 3) that DOE's test results and resulting analyses are invalid to support this particular rulemaking.

Testing products according a test procedure that has not been finalized, yet alone proposed, to support this proposed ECS suggests that DOE was not concerned about the feedback it would receive on the cooking products test procedure that it proposed in 2021. The timeframe suggests that DOE did not believe that it would have to adjust the test procedure to appropriately respond to public comments or that it would not be faced with a legal challenge. Even if DOE followed the test procedures that were promulgated in 2016 and later withdrawn, enough changes exist between the 2022 final test procedures and the withdrawn 2016 test procedures, such as a 10 degree Celsius difference in starting water temperature,¹⁸ that any tests performed under a test procedure other than the final 2022 test procedure should be considered an invalid substantiation for the current SNO PR.

Finally, the use of a test procedure to before it is finalized to substantiate an ECS appears to be a violation of DOE's own processes, something APGA has opposed in comments before, as noted above. No matter how it is viewed, the approach DOE has taken with not only developing its test procedure for gas-fired cooking products but also applying it in support of the SNO PR is fatally flawed. Accordingly, DOE must withdraw the SNO PR and address the significant concerns with the test procedure before applying it to another proposed ECS.

II. DOE erred in failing to maintain features desired by consumers, as required by EPCA.

EPCA includes provisions (the "Unavailability Provisions")¹⁹ that ensure the standards do not deprive purchasers of "product choices and characteristics, features, sizes, *etc.*," and that energy savings are

¹³ 86 Fed. Reg. 71406.

¹⁴ 87 Fed. Reg. 2559.

¹⁵ 87 Fed. Reg. 51492.

¹⁶ SNO PR NODA attachment at 3 (Feb. 17, 2023).

¹⁷ 10 C.F.R. Part 430, Subpt. C, Appendix A.

¹⁸ TSD at 3-16.

¹⁹ 42 U.S.C. §§ 6295(o)(4) and 6313(a)(6)(B)(iii)(II)(aa).

achieved “without sacrificing the utility or convenience of appliances to consumers.”²⁰ In adopting these Unavailability Provisions, Congress understood that American innovation would present consumers with new features that would provide value to be balanced with appliance efficiency.

During the public meeting and in the SNOPR, DOE notes 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.”²¹ Despite DOE acknowledging this utility to consumers, the agency does nothing to protect these features, as required by EPCA.

DOE rationalizes that the agency has “preliminarily determined that the utility of commercial-style cooking tops ... can be met with the proposed standards”²² and “that the utility of commercial-style cooking tops can be met with a single high input rate burner and continuous cast-iron grates.”²³ How this is possible is unclear, as no “professional-style cooking products” passed DOE’s testing. Furthermore, in an *ex parte* meeting, at least one manufacturer raised concerns about the significant impacts from the loss of utility arising from the proposed rule.²⁴

As noted during the public meeting, DOE “found that over 50% of cooking tops marketed as residential-style have one or more burners rated above 14,000 BTUs per hour and have cast-iron grates.”²⁵ While DOE uses this data to defend its reason not to create a separate product class for commercial-style consumer cooking products, it demonstrates the significant consumer demand for both high input burners and cast-iron grates in the gas-fired cooking products market.

In its analysis, DOE screens out technologies that are not technologically feasible; not practical to manufacture, install, and service; *have adverse impacts on product utility or availability to consumers*; have adverse impacts on health or safety; or represent unique pathway proprietary technologies. Yet DOE failed to screen out products without both multiple high input burners and cast-iron grates. Instead, it is proposing to set the ECS for gas-fired cooking products at max tech, which does not allow for more than one high input burner, if any at all, or the use of heavy cast-iron grates.

By eliminating these features that provide utility and convenience to consumers, DOE is in violation of EPCA’s Unavailability Provisions. Accordingly, DOE must reissue a proposed ECS that adequately protects these features in all situations, not just some, whether that be done with the creation of separate product classes or in some other manner.

III. DOE failed to justify the cost of the proposed ECS, as required by EPCA.

Congress required not only that a proposed ECS be “technologically feasible” for the industry but also “economically justified” for consumers so that the “benefits of the standard exceed the burden of the

²⁰ H.R. Rep. No. 100-11 at 22-23 (1987).

²¹ Public meeting transcript at 58.

²² *Id.* at p. 46.

²³ *Id.* at p. 48.

²⁴ <https://www.regulations.gov/document/EERE-2014-BT-STD-0005-0767>.

²⁵ Public meeting transcript at p. 13.

proposed standard.”²⁶ Determination of economic justification must include cost-benefit comparisons of all proposed trial standard levels (“TSL”).²⁷ EPCA requires DOE to consider the following factors in its analysis:

1. The economic impact of the standard for manufacturers and consumers
2. LCC compared with any increases in price of products that meet standards
3. The total projected amount of energy savings likely to result
4. Any lessening of the utility or the performance of the products likely to result
5. The impact of any lessening of competition
6. The need for national energy and water conservation
7. Any other factors DOE determines relevant²⁸

a. The LCC savings calculated by DOE are insufficient to justify the proposed outcome of the SNOPR.

According to DOE, the average lifetime of a gas-fired consumer conventional cooking product is 14.5 years.²⁹ Furthermore, the SNOPR concludes that the average lifecycle cost (“LCC”) savings of the proposed ECS, as applied to gas cooking tops, is \$21.89.³⁰ If implemented, this works out to a LCC savings for consumers that own a gas cooking top of \$1.51 per year of the life of the appliance.

It is important to note that the insignificant LCC savings are likely overinflated, as DOE did not assume consumers would switch appliance types as a result of the proposed ECS. Not only would the lack of utility arising from the proposed standard’s prohibition of high input burners and cast-iron grates likely lead many consumers to vie for a different cooking appliance, but this behavior would likely be further bolstered by the recently passed Inflation Reduction Act, which includes rebates to incentivize individuals to purchase electric cooking products. Together, these drivers could result in less gas-fired cooking products being shipped in the future, which would further decrease the LCC benefits of the proposed rule.

b. DOE erred in its reliance on interim Social Cost of Greenhouse Gases values.

As noted in comments that APGA jointly submitted to the Office of Management and Budget (“OMB”) with over 20 other trade associations (“the Joint Association Comments”), the interim social cost of greenhouse gases (“SC-GHG”) values developed by the interagency working group (“IWG”) in response to Executive Order (“EO”) 13,990 still require additional modifications before they are appropriate for use in federal agency rulemakings or policy decisions. Accordingly, until the IWG addresses the concerns raised in the Joint Association Comments, we urge DOE to forgo use of the interim SC-GHG values in its rulemakings. These arguments are more fully developed in the Joint Association Comments.³¹

²⁶ 42 U.S.C. § 6313(a)(6)(B)(ii).

²⁷ 85 Fed. Reg. 50937 (August 19, 2020).

²⁸ *Id.*

²⁹ 88 Fed. Reg. 6818 (February 1, 2023).

³⁰ *Id.*

³¹ Incorporated by reference, available at

<https://www.abc.org/Portals/1/2021%20Files/Government%20Affairs/Regulatory/Association%20Comments%20on%20CEQ%20NEPA%20NOPR%2011%202021.pdf?ver=2021-11-23-104205-717>.

Because of the inherent uncertainties and outstanding concerns with these values, APGA is particularly concerned with DOE's use of the SC-GHG in its cost benefit analysis, especially because such a large percentage of the total benefits of the proposed rulemaking result from these values. DOE's reliance on these SC-GHG values is flawed and brings into question whether the proposed ECS is actually economically justified.

IV. The SNOPR will lessen competition and significantly impact small businesses.

DOE tested 43 consumer conventional cooking tops, including 13 gas cooking tops and the cooking top portion of 8 gas ranges.³² APGA supports fair energy conservation standards for appliances, but 96% of the gas cooktops tested by DOE were out of compliance with the proposal intended to be effective in 2027.³³ As a result, producers are more likely to leave the market rather than take on the financial burden to comply with the proposed standards. If only one tested gas cooktop meets the proposed standards, the SNOPR gives that model a significant competitive advantage over all producers and unreasonably eliminates other producers.

In particular, small businesses would face significant anticompetitive effects, which DOE has failed to consider in its economic justification. DOE analyzed 15 small business manufacturers of gas cooking tops and, of those analyzed, 6 exclusively produced gas cooking tops. Though DOE estimates the average total testing and conversion cost for small businesses to be \$2,099,380, some face much higher burdens.³⁴ For example, one small business would spend 80% of its annual revenue on testing and conversion costs. These extraordinary impacts small businesses disproportionately face would incentivize them to leave the market altogether, rather than comply with the proposed standards.

APGA raised these concerns in a joint letter to the U.S. Department of Justice's Antitrust Division on March 3, 2023. Because the proposed rule, if implemented, will limit competition and have a significant impact on small businesses, DOE must withdraw the SNOPR.

V. DOE's finalization of the SNOPR would promulgate poor public policy that neither guarantees energy savings nor emissions reductions, contrary to the current Administration's policy goals.

APGA supports goals to reduce greenhouse gas ("GHG") emissions in the United States. As a cost-effective and reliable energy source, consumers value the ability to choose natural gas as an energy solution that works best for their budgets and facility needs. As well, given its growing domestic supply and safe, reliable, and efficient delivery system reaching almost every home and business in America, the direct use of natural gas in buildings is an important part of our country's energy future and a pathway to supporting decarbonization. In fact, natural gas has been a big driver behind our country's declines in carbon emissions- notably, America's gas utilities have added 30 million residential customers since 1970 with virtually no increases in emissions.³⁵

³² 88 FR 6818 (February 1, 2023).

³³ APGA, et al.'s letter to DOJ raising antitrust concerns (March 3, 2023).

³⁴ 88 FR 6818 (February 1, 2023).

³⁵ American Gas Association, "Implications of Policy-Driven Residential Electrification," <https://www.aga.org/research/reports/implications-of-policy-driven-residential-electrification>.

However, in reaching these ambitious targets, APGA cautions against misguided policies that put all our “eggs in one basket” by eliminating Americans’ ability to choose the energy source best fit for their needs and budget, while discarding an existing infrastructure network and trained workforce. As discussed above, the loss of utility and convenience resulting from the proposed ECS for gas ranges could lead more consumers to purchase electric alternatives. This may actually lead to setbacks for our country’s decarbonization goals.

When it comes to keeping building sector emissions low, natural gas-fired appliances, including gas cooking products, play a critical role. Directly using natural gas in appliances is three times more efficient on a full-fuel-cycle basis than electric appliances. Approximately 90% of the energy produced is delivered and directly consumed by natural gas appliances at the point of use. Natural-gas generated electricity delivered to consumers, on the other hand, only achieves about one-third of the same efficiency due to energy lost during conversion and transmission. Accordingly, the direct use of natural gas results in lower GHG emission levels.

As discussed above, the direct use of natural gas in fuel-fired appliances is already an extremely efficient way to cook food, as well as heat air and water and dry clothes. However, fuel-fired appliances, such as gas cooking products, have the immediate potential to become even more environmentally friendly with additional support from the development and use of renewable natural gas (RNG) and hydrogen.

Blending even small amounts of RNG with conventional natural gas or using RNG exclusively can produce significant emissions reductions. RNG is pipeline-compatible, ultra-clean, and low-carbon. It is derived from the breakdown of organic wastes, meaning that it has the potential to yield a carbon-negative lifecycle emissions result. It can also be processed to be used in existing natural gas infrastructure interchangeably with geologic natural gas in homes and businesses. Also, in the future, blended hydrogen or hydrogen exclusively may be safely utilized in homes, businesses, and commercial applications. RNG and hydrogen can provide balanced energy solutions, helping the Federal government lessen environmental impacts, all while still using the existing, safe, and resilient infrastructure.

Not only have emissions from the natural gas distribution system declined 69% since 1990,³⁶ but EPA is also currently working on modifications to emissions regulations for the natural gas production and transportation sectors.³⁷ With appropriate updates to these requirements, the direct use of natural gas will have even less emissions of methane and other GHG associated with it than ever before. Still, DOE chooses to ignore these facts in this SNOPR. Because finalization of the SNOPR would likely result in increased emissions, less efficiency, and greater costs to be borne by the American taxpayers, DOE should withdraw the proposal.

VI. DOE fails to maintain the necessary transparency and expertise.

First, despite a request from the Association of Home Appliance Manufacturers (“AHAM”), the trade association representing the manufacturers of these products, DOE initially chose not to extend the comment period to ensure sufficient time for all stakeholders to develop robust and meaningful

³⁶ <https://playbook.aga.org/>.

³⁷ See <https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry/epa-issues-supplemental-proposal-reduce>.

comments in response to the SNOPR.³⁸ Only after another request AHAM did DOE then extend the comment period for 14 days.

After exceeding its Congressionally-appointed deadline to review such ECS, meager extensions to the comment period of this SNOPR would not have any significant impact in the timeliness of DOE's promulgation of such rule. Furthermore, with such a significant departure from the previous 2020 NOPD and the resulting potential impacts to manufacturers and consumers, additional time to develop meaningful comments was warranted.

Furthermore, DOE failed to provide a full copy of the transcript of the January 31, 2023 public meeting, which the agency hosted virtually to discuss the SNOPR. According to the SNOPR, DOE intended to conduct the public meeting in accordance with section 336 of EPCA, which requires that "[a] transcript shall be kept of any oral presentations made under this subsection."³⁹ However, while a transcript was made available of the verbal comments made during the meeting, the comments made by stakeholders during the meeting in the chat box were not captured. Transcripts are intended to capture discussions at a meeting to which all participants are privy. With the advent of virtual meetings, not only are live participants privy to the verbal conversations but also those in the virtual messenger or chat functions that are sent to all. Accordingly, DOE must work to capture a more complete transcript moving forward in order to be in compliance with federal law.

Furthermore, for all future public meetings, to ensure all stakeholders have a sufficient opportunity to review the full presentation and discussion that takes place at public meetings, DOE should make a recording of the meeting available to the public, even if only for the duration of the rulemaking or until a full transcript, including virtual chat messages that were sent to all webinar participants, is made available. This recording should be made available to the public via regulations.gov or DOE's webpage within 24-48 hours of the meeting to ensure that it is quickly and easily accessible. At the same time, DOE can continue to develop a full transcript of the meeting, in accordance with 42 U.S.C. § 6306(a)(3), to ensure compliance with applicable statutes. Other federal agencies have embraced the technology of the 21st century by making recordings of public meetings available, especially those that are already taking place in a virtual or hybrid format.⁴⁰ APGA urges DOE to do the same moving forward to ensure sufficient opportunity for stakeholder engagement.

Finally, APGA is concerned about the level of expertise on this rulemaking and others at the agency. While DOE staff led the public meeting, on almost all occasions, DOE staff deferred to DOE's consultants from Guidehouse, stated that they would need to follow up with the answer, or responded by directing the questioner to the TSD broadly. While utilizing consults is permissible by federal agencies, an overreliance calls into question whether the agency still maintains its expertise in establishing federal rules. Relying on a non-governmental entity for all expertise in the development of federal regulations is a concerning standard to set, as it presents potential conflicts of interest not currently addressed and may even violate the Administrative Procedure Act.⁴¹

³⁸ 88 Fed. Reg. 12603 (Feb. 28, 2023).

³⁹ 42 U.S.C. § 6306(a)(3).

⁴⁰ See, e.g., <https://ferc.gov/news-events/events/february-16-2023-open-meeting-02162023> (FERC notes that it archives recordings of its public meetings for 3 months); see also <https://onlinevideoservice.com/clients/PHMSA/houston1222/>.

⁴¹ See, e.g., <https://regulatorystudies.columbian.gwu.edu/regulatory-body-shops>.

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APGA members play a critical role in delivering homes the efficient, affordable, and reliable energy they need. Through this SNOPR, DOE is violating EPCA, which would in turn imposes additional costs on consumers and manufacturers while removing utility and impeding states and their communities from leveraging existing domestic energy supply and delivery infrastructure to meet the climate goals of the current Administration. Accordingly, DOE must withdraw the SNOPR.

We thank you for the review and consideration of these comments and look forward to continuing to engage with DOE in this and related proceedings. If you have any questions regarding this submission, please do not hesitate to contact us.

Respectfully submitted,



Dave Schryver
President & CEO
American Public Gas Association

Cc: Ms. Melanie Lampton (US DOE OGC)

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AMERICAN GAS ASSOCIATION, AMERICAN PUBLIC GAS ASSOCIATION,
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**COMMENTS OF THE NATIONAL PROPANE GAS ASSOCIATION IN
EERE-2014-BT-STD-0005 (APRIL 17, 2023) (DOC ID EERE-2014-BT-STD-0005-2270)**



April 17, 2023

Dr. Carl Shapiro
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Re: Supplemental Notice of Proposed Rulemaking and Announcement of Public Meeting: Energy Conservation Program: Energy Conservation Standards for Consumer Conventional Cooking Products {RIN 1904-AD15}{EERE-2014-BT-STD-0005}

Dr. Shapiro,

The National Propane Gas Association (NPGA) respectfully submits this comment in response to the Supplemental Notice of Proposed Rulemaking and Announcement of Public Meeting: Energy Conservation Program: Energy Conservation Standards for Consumer Conventional Cooking Products (SNOPR) by the Department of Energy (DOE).¹ DOE published the SNOPR to propose new and amended energy conservation standards for consumer conventional cooking products. DOE seeks to make changes to consumer cooktops and ovens, pursuant to the Energy Independence and Security Act of 2007.²

NPGA is the national trade association of the propane industry with a membership of about 2,500 companies, and 36 state and regional associations that represent members in all 50 states. Membership in NPGA includes retail marketers of propane gas who deliver the fuel to the end user, propane producers, transporters and wholesalers, and manufacturers and distributors of equipment, containers, and appliances. Propane gas fuels millions of installations nationwide for home and commercial heating and cooking, in agriculture, industrial processing, and as a clean air alternative engine fuel for both over-the-road vehicles and industrial lift trucks. Roughly 75% of NPGA's members have fewer than 100 employees, and are considered small businesses. NPGA members supply propane to consumers who utilize propane-fueled cooktops and ovens. The SNOPR directly addresses products which currently, and in the future, may rely on propane for consumer conventional cooking, and as such, the SNOPR has the potential to have a direct and significant impact on NPGA's members.

Introduction

DOE's SNOPR states that "DOE has tentatively concluded that the proposed standards represent the maximum improvement in energy efficiency that is technologically feasible and economically justified,

¹ Energy Conservation Program: Energy Conservation Standards for Consumer Conventional Cooking Products: Supplemental Notice of Proposed Rulemaking and Announcement of Public Meeting, 88 Fed. Reg. 6818 (Feb. 1, 2023) (hereinafter, "SNOPR").

² SNOPR at 6819, 6824.

and would result the significant conservation of energy.”³ DOE is mistaken in its claim that the standards are economically justified. As the comment will show, the market effects of the proposed regulation are extraordinary, and will lead to fuel switching, exits from the marketplace, and enormous conversion and testing costs for producers of gas cooktops. DOE’s analysis omits essential information in their analysis, such as consumer costs, potential market exits, and product availability within the United States. Only by these omissions can DOE justify its currently proposed standards.

The SNOPR notes that “DOE may adopt energy efficiency levels presented in this document that are either higher or lower than the proposed standards, or some combination of level(s) that incorporate the proposed standards in part.”⁴ DOE’s statement is misleading. Later in the SNOPR, DOE admits that its standards for gas cooking tops are “max-tech.”⁵ As such, DOE could not adopt a higher standard than the one it has chosen for gas cooking tops, as it would not be pursuant to EPCA’s standards.⁶

DOE continues to note that its determination of technological feasibility and economic justification is based on seven statutory factors, including “(1) the economic impact of the standard on the manufacturers and consumers of the products subject to such standard” and “(5) the impact of any lessening of competition, as determined in writing by the Attorney General that is likely to result from the imposition of the standard.”⁷

Further, the SNOPR notes that “EPCA establishes a rebuttable presumption that a standard is economically justified if the Secretary finds that the additional cost to the consumer of purchasing a product complying with an energy conservation standard level will be less than three time the value of the energy savings during the first years that the consumer will receive as a result of the standard.”⁸

Given the significant costs and burdens outlined in the proposed rule, and the omissions from the costs analysis, DOE should consider alternative options, which would greatly reduce the economic burden on the public and greatly enhance DOE’s argument that its standards are economically justified. Alternatively, DOE should consider withdrawing the proposed standards for gas cooktops.

Procedural History

DOE provides a long and detailed procedural history of the proposed rulemaking. In the SNOPR, DOE states “On December 14, 2020, DOE published a Notification of Proposed Determination (“NOPD”) proposing not to amend the energy conservation standards for consumer conventional cooking products” because “amended energy conservation standards for consumer conventional cooking products would not be economically justified and would not result in a significant conservation of energy.”⁹ In the NOPD, “DOE noted that the estimates for energy savings associated with a specific technology option for gas cooking tops, optimized burner and grate design, may vary depending on test procedure, and thus DOE screened out this technology options from further analysis of gas cooking tops.”¹⁰

DOE further states that “The Joint Gas Associations agreed with the DOE’s tentative determination in the December NOPD that no new standards are justified” and the “December 2020 NOPD’s tentative

³ SNOPR at 6823.

⁴ SNOPR at 6824.

⁵ SNOPR at 6870, 6846.

⁶ 42 U.S.C. 6295(o)(2)(A).

⁷ SNOPR at 6824-25.

⁸ SNOPR at 6825; 42 U.S.C. 6295(o)(2)(B)(iii).

⁹ SNOPR at 6826.

¹⁰ *Id.*

determination that neither of the February 2020 Process Rule’s thresholds for significant energy savings are met for TSL 2 or TSL 1 for consumer conventional cooking products” was also supported by the Joint Gas Associations.¹¹ NPGA supports and associates itself with the Joint Gas Associations prior comments on this rulemaking. Further, the SNO PR states that “AHAM stated that no significant changes have occurred to justify new standards since the April 2009 Final Rule that determined that energy conservation standards for consumer conventional cooking products were not justified.”¹² NPGA supports and associates itself with AHAM’s prior comments on this rulemaking.

DOE fails to articulate or demonstrate technological changes for gas cooking tops which would achieve TSL 1 or TSL 2 since the 2009 Final Rule which would result in the significant conservation of energy as stated in EPCA. The Joint Gas Associations and AHAM’s prior comments remain relevant and applicable to the current SNO PR, and DOE has failed in the SNO PR, or in the Technical Support Document, to show otherwise.

Performance Standards vs. Maximum Allowable Integrated Annual Consumption

“DOE proposes performance standards only, shown in Table 1.1, which are the maximum allowable integrated annual energy consumption (“IAEC”) and expressed in kilowatt-hours per year (“kWh/year”) for electric cooking tops and thousand British thermal units per year (“kBtu/year”) for gas cooking tops.”¹³

DOE’s proposal confuses performance standards with maximum use standards. Consequently, DOE’s proposed standards are in fact, not performance standards, but provide a maximum use on consumer conventional cooking products. DOE’s proposal is contrary to EPCA’s requirement of achieving a maximum improvement in energy efficiency,¹⁴ but rather, proscribes use above and beyond a set amount of kWh/year or kBtu/year, depending on the product.

Establishment of Baselines

Baseline energy consumption for each class of cooking appliance is based on what DOE considered to be the “base model” technology in each case. Each appliance class was then analyzed for potential energy efficiency improvements. Those potential improvements were placed into groups representing discrete, successive levels of research and development effort; these groups form the basis of the TSLs.

Before continuing it is important to recognize that energy may be expressed in a variety of units. This rulemaking chose to prescribe cooking appliance energy consumption targets in two different energy units, kilowatt-hours (kWh) for electric appliances, and thousand British thermal units (kBtu) for gas appliances. On one hand, this is a natural distinction, since electric energy is commonly measured in kWh, while the heating value of gaseous and liquid fuels is commonly measured in Btu. On the other hand, the use of two different energy units does not easily facilitate comparison among the different appliance classes. All gas and electric appliance energy consumption values can, and should, be expressed in a common set of units to avoid confusion. The choice of energy unit is arbitrary and unimportant, but a choice of kBtu may be convenient because a great deal of electric energy is generated in thermal power plants where primary fuels are burned. As such, a comparison between burning fuels at the source (electric plant) and site (gas appliance) is made clearer in consistent terms of energy consumption, and is consistent with DOE’s use of Full Fuel Cycle (FFC) analysis in the rule.

¹¹ SNO PR at 6827.

¹² SNO PR at 6828.

¹³ SNO PR at 6819.

¹⁴ 42 U.S.C. 6295(o)(2)(A).

To illustrate making energy comparisons on a consistent basis, consider as an example the performance standard for electric coil cooking tops of 199 kWh/yr from the Supplemental Notice of Proposed Rulemaking (SNOPR). This amount of electricity consumption is equal to 679 kBtu/yr, where 1 kWh is equal to 3412.14 Btu.¹⁵

But the true disparity is only evident when considering overall energy usage. This 199 kWh is a site energy value (measured in the home). If, in fact, the true overall (source, or primary) energy consumption of an appliance is considered, then it must be further multiplied by a source energy conversion factor, the US average for which is currently 2.60 according to the GTI Source Energy and Emissions Analysis Tool.¹⁶ In other words, for an electric cooking top to be able to consume 199 kWh in a home kitchen, 2.6 times that amount of primary energy must be consumed at the power plant to generate the electricity and transmit it from the plant to the home site. Such calculations would be consistent with DOE’s use of the FFC analysis in the SNOPR.

Application of this source energy conversion factor results in an allowable electric coil cooking top energy usage of 1,765 kBtu/yr, which is nearly equal to the annual energy consumption of a baseline gas cooking top (1,775 kBtu/yr). This implies that requiring gas cooking tops to meet TSL 2 efficiency standards will result in an increase in source (primary) energy consumption: less expensive and less efficient baseline electric coil cooking tops will replace more expensive and more efficient TSL 1 gas cooking tops in the market, all other things equal, as shown in Table 1.

Table 1. All electric cooking tops consume more primary energy than TSL 1 gas cooking tops

Cooking Tops	Baseline	TSL 1	TSL 2	TSL 3
Site Energy Basis				
Electric Coil Element (kWh/yr)	199.0	199.0	199.0	199.0
Electric Coil Element (kBtu/yr)	679.0	679.0	679.0	679.0
Electric Smooth Element (kWh/yr)	250.0	207.0	189.0	179.0
Electric Smooth Element (kBtu/yr)	853.0	706.3	644.9	610.8
Gas (kBtu/yr)	1775.0	1440.0	1204.0	1204.0
Total Source Energy Basis				
Electric Coil Element (kWh/yr)	517.4	517.4	517.4	517.4
Electric Coil Element (kBtu/yr)	1765.4	1765.4	1765.4	1765.4
Electric Smooth Element (kWh/yr)	650.0	538.2	491.4	465.4
Electric Smooth Element (kBtu/yr)	2217.9	1836.4	1676.7	1588.0
Gas (kBtu/yr)	1775.0	1440.0	1204.0	1204.0

Calculations of Energy Savings

The rulemaking computes national energy *savings* on a FFC basis while mandating appliance energy *consumption standards* on a site energy basis (measurements of home energy use):

“For electricity, DOE reports national energy savings in terms of primary energy savings, which is the savings in the energy that is used to generate and transmit the site

¹⁵ *What is the efficiency of different types of power plants?*, Frequently Asked Questions (FAQs) - U.S. Energy Information Administration (EIA) (September 20, 2022), <https://www.eia.gov/tools/faqs/faq.php?id=107&t=3>.

¹⁶ *Residential Buildings – Input*, Source Energy and Emissions Analysis Tool (last visited March 14, 2023), <https://cmicseeatcalc.gti.energy/ResidentialBuildings>.

electricity. *For natural gas, the primary energy savings are considered to be equal to the site energy savings.*¹⁷ [emphasis added]

But, the fact that primary energy consumption will in fact increase, rather than decrease, if the proposed standards are enforced is contrary to a statutory energy conservation requirement:

“Pursuant to EPCA, any new or amended energy conservation standard must be designed to achieve the maximum improvement in energy efficiency that DOE determines is technologically feasible and economically justified. (42 U.S.C. 6295(o)(2)(A)). Furthermore, the new or amended standard *must result in a significant conservation of energy.* (42 U.S.C. 6295(o)(3)(B)).”¹⁸ [emphasis added]

Gas cooking tops are used by 38% of households according to EIA.¹⁹ Consumer Reports estimates that induction cooking tops have a 3% market share.²⁰ This means that electrical resistance cooking tops represent 59% of the market. The proposed rule thus allows nearly 3/5 of all cooking tops to use more energy than would be achievable by even the most marginal (TSL 1) improvements to gas cooking tops.

Table V.1 in the SNOPIR indicates that the proposed Trial Standard Levels (TSL 1, 2, and 3) targets for electric open (coil) element cooking tops are identical, i.e. that no improvement is expected. On one hand, this makes sense, because the technology is rather primitive. An electrical current flows through the coil and generates heat in accordance with Joule’s law. This relationship, often called “I-squared-R heating,” Ohmic heating, or Joule heating,²¹ is a fundamental physical process, akin to the action of gravity on falling objects. The upshot is that conventional electric coil cooking tops may never become appreciably more efficient, and the only energy savings that could ever be seen would be from improvements in electricity generation and transmission efficiency—something that is outside the scope of cooking top manufacturing or design. Encouraging through regulation the expanded use of a mature cooking technology that demonstrably consumes more energy than competing products is inconsistent with the goal of energy conservation and EPCA.

Electric smooth element cooking tops are apparently capable of significant efficiency improvements at “max-tech” (TSL 3) levels, but there are no intermediate (TSL 2) improvements proposed by the new standards per Table V.1. In contrast, all of the available efficiency improvements for gas cooking tops are expected to be achieved at the TSL 2 level, and no further improvements are thereafter proposed. This binning of technology improvements into arbitrary and inconsistent levels makes it rather convenient for a uniform TSL 2 target to be set for all appliances. That will result in a mandate that all feasible gas cooking top efficiency improvements be achieved, while at the same time fewer of the electric cooking top improvements will be required.

¹⁷ Energy Conservation Program: Energy Conservation Standards for Consumer Conventional Cooking Products, 88 Fed. Reg. 6,833 (February 1, 2023) (to be codified at 10 C.F.R. pt. 429 – 430), <https://www.federalregister.gov/documents/2023/02/01/2023-00610/energy-conservation-program-energy-conservation-standards-for-consumer-conventional-cooking-products>.

¹⁸ Energy Conservation Program: Energy Conservation Standards for Consumer Conventional Cooking Products, 88 Fed. Reg. 6,819 (February 1, 2023) (to be codified at 10 C.F.R. pt. 429 – 430), <https://www.federalregister.gov/documents/2023/02/01/2023-00610/energy-conservation-program-energy-conservation-standards-for-consumer-conventional-cooking-products>.

¹⁹ *In 2020, most U.S. households prepared at least one hot meal a day at home*, U.S. Energy Information Administration - EIA - Independent Statistics and Analysis (August 15, 2022), <https://www.eia.gov/todayinenergy/detail.php?id=53439>.

²⁰ Mary H. J. Farrell & Paul Hope, *CR’s Complete Guide to Induction Cooking*, Consumer Reports (October 11, 2022), <https://www.consumerreports.org/appliances/ranges/guide-to-induction-cooking-a2539860135/>.

²¹ *Joule heating*, Encyclopedia Britannica (June 29, 2022), <https://www.britannica.com/science/Joules-law>.

According to the TSD, the decision to separate open coil and smooth element electric cooking tops was arbitrary, and based on the acknowledgement that smooth elements consume more energy than coil elements:

“For electric cooking tops, DOE’s 2009 TSD determined that the ease of cleaning smooth elements provides enhanced consumer utility over open (coil) elements. Because smooth elements typically use more energy than open (coil) elements, DOE defined the following product classes [coil and smooth elements] for electric cooking tops.”²²

Therefore, another option could be to reframe this discrepancy among electric resistance cooking tops as a technology improvement rather than a class distinction, which might lead to a meaningful TSL 2 category for electric appliances. Baseline performance for cooking tops would then be coil elements, and max-tech would be optimized smooth elements. Induction cooking tops were not placed into a separate class of electric cooking tops—they are considered smooth element cooking tops. Accordingly, induction cooking tops would need to achieve efficiency improvements using the same TSL scale as electric resistance cooking tops.

Full Fuel Cycle Analysis

DOE states in the SNOPR that “DOE also calculates national energy savings (“NES”) in terms of Full Fuel Cycle (“FFC”) energy savings. The FFC metric includes the energy consumed in extracting, processing, and transporting primary fuels (i.e. coal, natural gas, petroleum fuels), and thus presents a more complete picture of the impacts of energy conservation standards.”²³

NPGA commends DOE for utilizing FFC in order to provide a comprehensive analysis of national energy savings. NPGA further urges DOE not to deviate from its utilization of FFC in its promulgation of a Final Rule, should the SNOPR progress to that stage. NPGA also recommends DOE revise its calculations of TSLs 1, 2, and 3 for gas cooktops consistent with FFC, as explained in “Establishment of Baselines” section.

Additional Costs and Manufacturer Impact Analysis - Product and Capital Conversion Costs

The SNOPR states that “DOE considers the impact of standards on domestic manufacturer employment and manufacturing capacity, as well as the potential for standards to result in plant closures and investment.”²⁴ DOE concedes that “new or amended energy conservation standards could cause manufacturers to incur conversion costs to bring their production facilities and product designs into compliance.”²⁵ The SNOPR’s figures showing the benefit of the amended standards for gas cooking tops are difficult to comprehend. The SNOPR claims that TSLs 2 and 3 will result in lifecycle costs savings of \$21.89²⁶ across a lifetime of 14.5 years.²⁷ Consequently, DOE is proposing a max-tech standard for gas cooking tops, which will affect a significant portion of the market, in order to potentially save consumers who do not engage in fuel switching, approximately \$1.51 per year. This paltry savings pales in comparison to the burden consumers and manufacturers will face to comply with these standards.

²² 2022-12 Technical Support Document: Energy Efficiency Program for Consumer Products and Commercial and Industrial Equipment: Consumer Conventional Cooking Products, December 2022, Docket (EERE-2014-BT-STD-0005), Energy Efficiency and Renewable Energy Office (December 22, 2022), 3-2, <https://www.regulations.gov/document/EERE-2014-BT-STD-0005-0090>.

²³ SNOPR at 6833.

²⁴ SNOPR at 6833.

²⁵ SNOPR at 6862.

²⁶ SNOPR at 6876.

²⁷ SNOPR at 6872.

Additionally, with respect to manufacturer costs, the SNO PR notes that “DOE was not able to determine different incremental costs between EL 1 and EL 2 for gas cooking tops.”²⁸ The SNO PR’s published incremental costs for compliance was \$12.41,²⁹ which would take eight years of savings to achieve value for the consumer. Further, consumer savings will not justify the cost for over half of the published lifecycle of the gas cooktop, and the savings, with respect to gas cooktops, do not satisfy EPCA’s rebuttable presumption of economic justification. DOE’s proposal is a naked effort to push a max-tech re-design of gas cooktops which will have significant consumer and manufacturer costs with incidental savings that fail to justify the rulemaking.

Further, the SNO PR states that “EPCA creates a rebuttable presumption that an energy conservation standard is economically justified if the additional cost to the consumer of a product that meets the standard is less than three times the value of the first year’s energy savings resulting from the standard, as calculated under the applicable DOE test procedure.”³⁰ However, the SNO PR is misguided in its analysis. “The inputs to the PBP calculation for each efficiency level are the change in total installed cost of the produce and the change in the first-year annual operating expenditures relative to the baseline.”³¹ However, this calculation falls to account for additional costs incurred by the consumer with respect to the “additional installed cost.”³² The SNO PR and the TSD fail to account for the cost of upgrading electrical service or capacity, or for fuel switching. The tables regarding payback and net cost percentage fail to account for accurate costs to consumers, and must be re-calculated using more comprehensive data.³³ It fails to account for delays in availability of new or enhanced products. The additional cost to the consumer will greatly exceed the first year’s energy savings of \$1.51 as well.³⁴ Even under EPCA’s rebuttable presumption of three times the first year’s energy savings, the cost of the new appliance, or fuel switching with respect to gas stoves, would fail EPCA’s requirements.³⁵ The payback period analysis deliberately omits material and critical mandatory costs to consumers which would in turn, make the standard fail under EPCA’s rebuttable presumption.

Testing

The SNO PR notes:

DOE measured energy consumption of gas burners in a sample of 24 gas cooking tops, which included 11 products marketed as commercial-style. The number of burners per cooking top ranged from four to six. DOE’s testing, as presented in chapter 5 of the TSD for this SNO PR, showed that energy consumption for gas cooking tops continues to be more closely related to burner and grate design rather than input rate, as it was in the September 2016 SNO PR analysis.³⁶

DOE’s own conclusions reinforce the prior comments of the Joint Gas Associations³⁷ and AHAM³⁸ that technology has not improved over the course of this rulemaking, and that any energy savings are related

²⁸ SNO PR at 6851.

²⁹ SNO PR at 6851.

³⁰ SNO PR at 6834.

³¹ SNO PR at 6857.

³² *Id.*

³³ SNO PR at 6876.

³⁴ SNO PR at 6876.

³⁵ 42 U.S.C. 6295(o)(2)(A).

³⁶ SNO PR at 6836.

³⁷ *Supra*, note 23.

³⁸ *Supra*, note 24.

to burner and grate design. As a result, DOE has proposed implementing new efficiency standards without improved technology, contrary to the text of EPCA. If DOE determined that the conservation standards were not justified in previous iterations of this rulemaking, it has failed to show the technological improvements which would result in a diametrically-opposed conclusion in this iteration of the rulemaking.

DOE's testing similarly fails to confirm that the products evaluated remain on the market, as DOE conducted the testing prior to April 2022.³⁹ All products purchased by DOE for the testing were purchased prior to May 2018,⁴⁰ which casts doubt on whether or not such products remain available and would be available when the DOE anticipates the proposed rule would go into effect. DOE conceded that 42% of the products it tested are no longer available on the market.⁴¹ DOE has failed to show the availability of products on the market which would meet the standard, and has failed to show such models can be purchased in the United States, which presents a problem in terms of complying with EPCA.⁴² NPGA also agrees with the comments of Spire, and the AGA, that the reproducibility and reliability of DOE's testing is flawed, and cannot be relied upon due to unacceptable levels of variability within the test. DOE must reduce the range of error within its testing in order to arrive at a valid result. Finally, DOE indicates that it analyzes available appliances based on their model numbers, but such superficial investigation fails to understand whether or not the market continues for products which would meet DOE's max-tech standard.

Further, according to the test procedure,⁴³ DOE conducted all testing prior to publishing the final test procedure and the technical corrections to the test procedure.⁴⁴ By relying on testing methods adopted prior to inclusion of technical comments and changes, DOE's foundation for its test method must be called into question. It strains credulity that DOE's tests can be relied upon when it published the final test procedure after the tests themselves had been conducted.

DOE's amended standard is thus without grounds, foundation, or supporting analysis. As such, DOE's gas cooktop standards are arbitrary, capricious, and without a basis in fact, and must be discarded.

Technology

In the SNOPR, DOE states:

AHAM stated that the available technology options have not changed since the 2009 Final Rule. GEA stated that there have been no technology improvements impacting energy efficiency and no meaningful energy savings opportunity in consumer conventional cooking products since the last standards rule and therefore there is no justification for changing the current standards...

Although DOE has found that there are no specific new technology options that impact energy efficiency available since the April 2009 Final Rule,

³⁹ 87 FR 51492 (Aug. 22, 2022).

⁴⁰ NODA Attachment: Energy Conservation Program for Consumer Products and Commercial and Industrial Equipment; February 2023; EERE-2014-BT-STD-0005-0343. (hereinafter "NODA Attachment") at 3.

⁴¹ NODA attachment at 4, stating that only 12 products tested were still available.

⁴² 42 U.S.C. § 6295(o)(4).

⁴³ 88 FR 7846 (Feb. 7, 2023).

⁴⁴ NODA Attachment at Tables 1.1 and 1.2.

manufacturers are innovating on aspects of cooking performance to do not relate to efficiency.⁴⁵

By its own admission, DOE states that the technology of consumer conventional cooking tops has not changed since April 2009, but only changed in the design of products. However, DOE has failed to state manufacturer design as a basis for regulation under EPCA. In fact, EPCA only provides for new and amended standards when they are economically feasible and technologically justified.⁴⁶ Given that DOE confirms the comments of the Joint Gas Associations, AHAM, and GEA, DOE lacks a basis on which to regulate efficiency standards for consumer conventional cooking products because EPCA does not provide them grounds to regulate based on manufacturer design, but rather, only economic justification and technologic feasibility. DOE must withdraw its standards in order to conform to its conclusions in the record that existing technology does not justify amending the standards,⁴⁷ and DOE must reserve amending existing standards until it can specifically articulate technology changes which have occurred since the 2009 Final Rule.

Market Effects and Sample Size and Parameters

DOE's proposed standard will have a significant market effect, because even if DOE's assertion that the standard is technically feasible and economically justified is correct, it will cause 96% of the gas cooktop market to be out of compliance with the standard in 2027.⁴⁸ It is more likely that producers will choose to leave the market, rather than expend the millions of dollars it will take to redesign their products in order to be in compliance with the proposed standards.⁴⁹ Creating a standard that would result in the unavailability of a product would be a direct violation of EPCA.⁵⁰

The market upheaval in such a short amount of time will be enormous. Further, according to the SNO PR, none of the gas units in the DOE test sample marketed as commercial-style were capable of achieving this efficiency level.⁵¹ Consequently, the SNO PR's assertion that manufacturers are able to meet the standard may be mistaken or illusory. Entire portions of the current market would be deemed non-compliant, leading to a market and manufacturer impact which the SNO PR completely disregards and avoids. Further, the truncated effective date of the proposed regulation will make redesign and manufacturing a herculean challenge.⁵²

Given the need to redesign, test, and manufacture the vast majority of the gas cooktop market, the costs to consumers must be evaluated. The SNO PR finds that the installed cost of a compliant gas cooktop would be \$395.⁵³ The SNO PR does not note where it got this number, but even assuming for argument that it is accurate, this cost would be excessive based on the benefits it would provide. In fact, based on the savings consumers would experience on a yearly basis,⁵⁴ a consumer would need to use their compliant gas cooktop for approximately 261 years in order to justify their return on investment. Given DOE's figures of a lifetime for the product of 14.5 years,⁵⁵ such usage numbers will not be realized.

⁴⁵ SNO PR at 6840.

⁴⁶ SNO PR at 6824; 42 U.S.C. 6295(o)(2)(A) and 42 U.S.C. 6295(o)(3)(B).

⁴⁷ *Supra*, page 3.

⁴⁸ In a variety of places in the SNO PR, DOE states that it anticipates a final rule in 2023, with an effective date in 2027.

⁴⁹ *See* SNO PR at 6898.

⁵⁰ 42 U.S.C. § 6295(o)(4).

⁵¹ SNO PR at 6845

⁵² SNO PR at 6819.

⁵³ SNO PR at 6872.

⁵⁴ *Supra*, page 4.

⁵⁵ *Id.*

Another matter to consider when examining market effects are the costs to industry. The SNOPR estimates that industry must invest \$183.4 million to comply with the standards set at TSL 2.⁵⁶ As has been noted elsewhere, this investment would solely be in redesign and testing, as no new technology exists for gas cooktops. This investment compares with the paltry savings offered by the SNOPR, and exemplifies the inadequate economic justification for the rule. The effect on industry would be extraordinary, with only marginal economic and other associated benefits.

According to DOE, only one model of gas cooktop tested meets the proposed standard.⁵⁷ DOE's proposed rule gives that single model a significant competitive advantage vis a vis all potential manufacturers, given that it is the only model which would be in compliance. Consequently, DOE's proposed standard creates a potentially unreasonable elimination of competition, because this single tested model would effectively have a monopoly in terms of compliance with the standard. The competitive impact is that every other gas cooktop on the market, assuming that DOE's TSD adequately sampled the breadth of the market, would be at a competitive disadvantage to a single model. In context, this SNOPR proposes to give that single model an unreasonable, government-assisted, first-mover advantage.

It should be noted that on February 28th, 2023, DOE published a Notice of Data Availability (NODA), which claimed that approximately 40% of the gas cooktop market was screened out of testing because they have efficiencies greater than EL 2 and would not be affected by the standards in the SNOPR.⁵⁸ DOE's numbers in the NODA are derived from "model counts of the burner/grate configurations of gas cooking top models currently available on the websites of major U.S. retailers," a method which is highly suspect and gives significant doubt regarding DOE's claim that "nearly half of the total has cooking top market currently achieves EL2."⁵⁹

Health Benefits

The SNOPR states that "reduced in-home gas combustion may deliver additional health benefits to consumers and their families by reducing exposure to various pollutants."⁶⁰

The SNOPR's inquiry into health benefits by reducing exposure to various pollutants is not grounded in science or shared by agencies who have expertise in the matter. The Environmental Protection Agency does not list gas stoves as significant contributors to indoor air quality or health hazards. Further, data from the Centers for Disease Control and the Energy Information Administration do not evidence a correlation between the use of gas stoves and the incidence of asthma.⁶¹ Additionally, research published by The Lancet, one of the most widely respected medical journals in the world for the last 200 years, failed to find a link between asthma and cooking from gas stoves.⁶²

⁵⁶ SNOPR at 6893.

⁵⁷ *Supra*, page 8. NPGA reiterates here that DOE has not shown its testing method is reliable or reproducible, and as such, should not be used as a basis in this rulemaking.

⁵⁸ Energy Conservation Program: Energy Conservation Standards for Consumer Conventional Cooking Products: Notice of Data Availability, 88 Fed. Reg. 12603, 12605 (Feb. 28, 2023). (hereinafter, "NODA").

⁵⁹ *Id.*

⁶⁰ SNOPR at 6887.

⁶¹ https://www.cdc.gov/asthma/most_recent_data_states.htm (last visited March 7, 2023); [State Appliances.pdf \(eia.gov\)](#) (last visited March 7, 2023).

⁶² [Cooking fuels and prevalence of asthma: a global analysis of phase three of the International Study of Asthma and Allergies in Childhood \(ISAAC\) - The Lancet Respiratory Medicine](#) (last visited March 7, 2023).

Additional health benefits to consumers would not come from enhanced efficiency standards, but rather, improved ventilation through high-efficiency range hoods or exhaust fans. Barring those solutions, opening windows would be advised. However, none of these solutions are the subject of this rulemaking, and DOE lacks scientific and peer-reviewed studies which purport to show a link between cooking with gas stoves or cooktops and hazardous indoor air pollutants.

Executive Orders 12866 and 13563

Pursuant to Executive Order 12866⁶³ and Executive Order 13563,⁶⁴ DOE is required to show that the benefits of the rulemaking justify its costs, are tailored to impose the least burden on society, that the chosen approach maximized net benefits, that the agency specifies performance objectives, and that the agency assess available alternatives.⁶⁵

NPGA submits that DOE has failed to comply with these executive orders. As noted in other sections, the SNO PR will create significant costs in terms of conversion and testing of gas cooktops, and could lead to fuel switching and supplementary costs for consumers. The burden on society will be significant, given that more than 50% of the current market for gas stoves will be rendered obsolete by 2027. The chosen approach maximizes net costs, given that the SNO PR identifies an alternative under which a significant amount of the gas stove market will remain in compliance in 2027.⁶⁶ The agency has failed to articulate performance standards for the gas cooktops, but rather, has decided to issue a maximum allowable integrated annual consumption of energy, which is a use limitation rather than a performance standard.⁶⁷ Finally, DOE's assessment of available alternatives under TSL 1 is woefully inadequate, as it fails to discuss the diminished costs or burdens of adopting a standard at less than max-tech, whereas such an adoption would both enhance the efficiency of gas stoves in use and result in a significant reduction of conversion and testing costs, as the majority of tested appliances would be in compliance with the more stringent standards.⁶⁸

Regulatory Flexibility Act

The SNO PR has significant anticompetitive effects on small business who exclusively produce gas cooktops, and their analysis in the SNO PR is highly misleading.⁶⁹ DOE analyzed 15 small business manufacturers of gas cooking tops, and of those 15, six exclusively produced gas cooktops.⁷⁰ While DOE claims that the average conversion and testing costs for small businesses was \$2,099,380 to comply with the proposed standards, the costs for conversion and testing for the six exclusive gas cooktop small business manufacturers was \$3,452,508, a 40% increase over the average for all small businesses analyzed.⁷¹ Small Business 8 would face conversion and testing costs of \$4,021,220 compared to annual revenue of \$5,000,000, a commitment of 80% of its annual revenue in testing and conversion costs.⁷² Small Business 7 would face conversion and testing costs of \$2,227,050 compared to annual revenue of \$2,730,000, a commitment of 83% of its annual revenue in testing and conversion costs.⁷³ This data shows the disproportionate anticompetitive effect the proposed standards would have on small business

⁶³ 76 Fed. Reg. 3821 (Jan. 21, 2011).

⁶⁴ *Id.*

⁶⁵ SNO PR at 6895.

⁶⁶ TSD at 5-33.

⁶⁷ *Supra*, page 2-3 (Section on Performance Standards vs. Maximum Allowable Integrated Annual Consumption).

⁶⁸ TSD at 5-33.

⁶⁹ SNO PR at 6897.

⁷⁰ *Id.*

⁷¹ SNO PR at 6898.

⁷² *Id.*

⁷³ *Id.*

manufacturers of gas cooktops, and are so extraordinary, that it would be an easy decision to leave the market altogether, further reducing competition amongst manufacturers.

DOE should be compelled to do a more thorough analysis under the Regulatory Flexibility Act, breaking out its analysis based on the product it is analyzing. Conducting such an analysis will show the rule's disproportionate effect on small business gas cooktop manufacturers. Further, DOE must analyze what the impact would be on these small business gas cooktop manufacturers at a lower efficiency standard, as their conversion and testing costs would be likely more manageable.

Alternatives

NPGA recommends DOE improve its testing program in order to achieve the goals of EPCA. DOE's current proposed rule allows for an unreasonable competitive advantage. Proposing an alternate, tested, and reproducible standard would accomplish the goals of EPCA and the SNOPR, while maintaining competition and having a diminished competitive impact. DOE should consider withdrawing the current rule while it improves its testing program to ensure compliance with EPCA, and propose standards or design changes consistent with accurate, reliable, and reproducible results from such testing. NPGA understands DOE's mandate from EPCA and the goals of the SNOPR, but the current proposed standard is ruinous to competition and serves to eradicate fuel choice among consumers.

Gas Ovens

NPGA does not have specific comments with respect to the SNOPR's proposed efficiency levels for gas ovens or electric products, but notes its general support and agreement with the comments of the Association of Home Appliance Manufacturers, as well as the American Gas Association, and the American Public Gas Association.

Conclusion

Thank you for your attention to our concerns, and please contact us with any questions.

Sincerely,



Benjamin Nussdorf
Vice President, Regulatory & Industry Affairs
National Propane Gas Association

***ENERGY CONSERVATION PROGRAM:
NOTIFICATION OF PETITION FOR RULEMAKING
EERE-2023-BT-TP-0006***

**ATTACHMENT D
TO THE COMMENTS OF
AMERICAN GAS ASSOCIATION, AMERICAN PUBLIC GAS ASSOCIATION,
NATIONAL PROPANE GAS ASSOCIATION,
SPIRE INC., SPIRE MISSOURI INC., AND SPIRE ALABAMA INC.**

**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)**

**COMMENTS OF SPIRE INC, SPIRE ALABAMA INC.,
AND SPIRE MISSOURI INC.**

**BEFORE THE
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
UNITED STATES DEPARTMENT OF ENERGY
WASHINGTON, D.C.**

**Energy Conservation Program:
Energy Conservation Standards for Consumer Conventional
Cooking Products**

**Supplemental Proposed Rule
88 Fed. Reg. 6818 (February 1, 2023)**

**Notice of Data Availability
88 Fed. Reg. 12603 (February 28, 2023)**

**Docket Number EERE-2014-BT-STD-0005
RIN No. 1904-AD15**

April 17, 2023

Spire Inc., Spire Alabama Inc., and Spire Missouri Inc. (collectively “Spire”) are pleased to submit these comments in response to the Department of Energy (“DOE”) Supplemental Notice of Proposed Rulemaking published at 88 Fed. Reg. 6818 (February 1, 2023) (the “SNOPR”) and Notice of Data Availability published at 88 Fed. Reg. 12603 (February 28, 2023) (the “NODA”). Spire Inc. owns and operates natural gas utilities including Spire Alabama Inc. and Spire Missouri Inc., the largest natural gas distribution companies in the states of Alabama and Missouri, respectively. Spire’s utility companies and their predecessors have been serving gas consumers for more than a century and a half. Today, they collectively provide natural gas distribution service to more than 1.7 million residential, commercial and industrial customers.

Spire supports energy conservation. Spire has supported energy efficiency education for homeowners and businesses alike for many years and has invested significant resources in rebate programs to promote the sale of high-efficiency equipment and appliances. However, ill-conceived efficiency regulations can do considerable unnecessary harm. In this proceeding, DOE’s proposed regulatory approach for gas cooking tops *is* ill-conceived: rather than promoting efficiency, the proposed standard would effectively eliminate key features and performance characteristics that contribute to the unique appeal of gas cooking tops. As a result, the standard would deprive many consumers of gas products with the

features and performance they seek, an outcome that can be expected to cause many disappointed consumers to engage in “fuel switching” that would substantially increase overall energy consumption, carbon emissions, and consumer utility bills. Spire and the customers it serves would be directly and adversely affected if this standard is adopted.

Executive Summary

There may be some consumers for whom cooking is strictly a matter of utilitarian drudgery on a par with vacuuming the floor or running a load of laundry. However, many consumers consider cooking to be a creative and often enjoyable activity, and for some it can be a matter of artistry in which they take significant personal satisfaction and pride. Many consumers who enjoy the creative aspects of cooking prefer to cook with gas and choose to invest in higher-end or “professional-style” gas cooking appliances with which they can enhance their cooking experience and better employ their culinary skills. The proposed standard for gas cooking tops appears to be designed to deprive such consumers of their products of choice and would unquestionably have that effect.

The proposed standard – even if it were otherwise justifiable – is legally impermissible because it would result in the unavailability of features and performance characteristics that make gas cooking tops the products of choice for many consumers: continuous, heavy-duty cast-iron grates and high-capacity

burners. *See* 42 U.S.C. § 6295(o)(4). The proposal seeks to evade this conclusion by suggesting that the proposed standard will preserve the availability of gas cooking tops with cast iron grates and “at least one” high-capacity burner.

However, there is no credible evidence that this is true and – in any event – there are many consumers whose needs would not be satisfied by gas cooking tops with cast iron grates and only a single high-capacity burner, particularly consumers who require the capability to cook large or elaborate meals for their families and friends. Such consumers need gas cooking tops with heavy, continuous cast iron grates and multiple high-capacity burners and efficiency standards cannot lawfully require them to settle for less.

Moreover, the proposed standard for gas cooking tops is unjustified because there is no basis to conclude that it would provide any energy conservation benefits or economic benefits for consumers. To the contrary, the standard – by depriving consumers of gas cooking tops with the features and performance characteristics they demand – would cause many consumers to settle for electric alternatives they consider less satisfactory, an outcome that would significantly increase their utility bills as well as overall energy consumption and carbon emissions. That outcome is not merely unjustified under the statutory scheme: it is *unjustifiable*. Accordingly, Spire respectfully requests that DOE withdraw the SNOPR and reconsider its regulatory approach.

Comments

DOE recognizes that many consumers prefer (and “derive utility” from) gas cooking tops with continuous cast iron grates and high-capacity burners. *See e.g.*, NODA, 88 Fed. Reg. at 12604, SNOPR, 88 Fed. Reg. at 6842 and 6836. Among other things, high-capacity burners “provide unique consumer utility and allow consumers to perform high heat cooking activities such as searing and stir-frying” and continuous cast-iron grates provide “the ability to use heavy pans, or to shift cookware between burners without needing to lift them.”¹ DOE claims that the proposed standard will preserve the availability of products with such features because it tested 21 gas cooking tops with cast-iron burners and “at least one” high-capacity burner and one of those tests produced a result lower than maximum value the proposed standard would permit. According to DOE, this single test result is sufficient to establish that 4% of the products with such features can meet the proposed standard and that the other 96% can somehow be modified to achieve compliance with the proposed standard. DOE thus claims that consumers who want such products will purchase modified, more “efficient” versions of them, with the result that there will be some conservation of energy and consumers will enjoy at least some utility bill savings.

¹ Technical Support Document: Energy Efficiency Program for Consumer Products and Commercial Industrial Equipment: Consumer Conventional Cooking Products, December 2022, which appears in the docket as document ID EERE-2014-BT-STD-0005-0090 (the “TSD”) at p. 5-9; SNOPR, 88 Fed. Reg. at 6845.

Many consumers do prefer gas cooking tops with continuous cast-iron grills and high-capacity burners, as demonstrated by the strong market for such products. These products provide features and performance characteristics that many consumers consider critical to their needs. Beyond that, there is no basis for any of DOE's assertions. DOE has no credible efficiency testing data, and the data it has – even if taken at face value – does not support the proposition that the proposed standard is achievable for gas cooking tops with the features and performance characteristics that many consumers demand. As a result, there is no basis for the economic and energy conservation benefits claimed to justify the proposed standard.

A. DOE's Efficiency Test Data is Inadequate to Support Reasoned Decision-Making.

Unusually – because the applicable test procedure is so new – there is no substantial body of existing test or certification data concerning the efficiency of gas cooking tops as measured by that new procedure. While the proposed standard is ostensibly based on the results of product testing, DOE indicates that only 24 gas cooking tops were tested and there is no basis to conclude either that the products tested are representative of the broad range of gas cooking tops currently available to consumers or that the testing conducted was sufficient to establish the efficiency of the models tested.

DOE reportedly tested 21 products with continuous cast-iron grates and at least one high-capacity burner,² and only one of those products produced a result that – taken at face value – did not exceed DOE’s proposed standard. DOE assumes that *all gas cooking tops* lacking both cast iron grates and high-capacity burners (generally lower-end products, as DOE appears to acknowledge) would satisfy its proposed standard. NODA, 88 Fed. Reg. at 12604-05. However, DOE only tested two such products, along with one additional product that had cast-iron grates but *no high-capacity burners*. *Id.* at Table II.1.

The sample of products tested is obviously small. It is also outdated: DOE indicates that the products tested were all purchased between June 2015 and May 2018, in which case the products would have been manufactured at least four to eight years ago. February 2023 NODA Attachment (which appears in the docket as document ID EERE-2014-BT-STD-0005-0343) (“NODA Attachment”) at Tables 1.1 and 1.2. At least nine of the 21 products considered in DOE’s engineering analysis – and likely more – are no longer on the market.³ DOE has not identified which of the tested products is still on the market, or whether the one

² DOE has defined “high-capacity” burners as burners with an input of 14,000 Btu/h or higher. Spire has accepted that terminology for purposes of these Comments.

³ DOE claims that 12 of the 15 products considered in its analysis were still on the market when the NODA was issued, but this appears to be based on the presence of particular model numbers on model listings, which would typically include models no longer being manufactured until the last examples produced have passed through the entire distribution chain. *See* NODA Attachment at 4.

product with a test result lower than the proposed standard is among them, despite written request that it do so.⁴

DOE represents that its testing was conducted “in accordance with” the final test procedure adopted in August 2022. NODA Attachment at 4. However, this testing reportedly commenced in June 2021 – before that test procedure had even been proposed – and had apparently been completed for at least 11 of the 24 products in DOE’s sample before the comment period on the proposed test procedure closed on February 17, 2022.⁵ Testing of all 24 products had been conducted by April 2022, four months before the final test method was published at 87 Fed. Reg. 51492 (August 22, 2022) and ten months before technical corrections to the test procedure were published at published at 88 Fed. Reg. 7846 (February 7, 2023). NODA Attachment, Tables 1.1 and 1.2. Even if DOE had locked-in its basic test procedure before even proposing it, it is difficult to believe that none of the refinements, clarifications and corrections made to that procedure from the pre-proposal stage through the recently-issued technical correction were material and that experience with performance of the test procedure (which

⁴ DOE’s March 20, 2023 written response to that request – which declined to address the question – appears in the docket as document **ID** EERE-2014-BT-STD-0005-1069.

⁵ NODA Attachment, at Tables 1.1 and 1.2. The test procedure was proposed at 86 Fed. Reg. 60974 (November 4, 2021) and was the subject of a Notice of Data Availability subsequently published at 86 Fed. Reg. 71406 (December 16, 2021) and an extension of the comment period published at 87 Fed. Reg. 2559 (January 18, 2022).

requires precise manual operating adjustments in the course of testing) did not significantly improve the quality of testing over time.

In any event, DOE's testing was not sufficiently robust to establish the efficiency of any of the products tested. DOE's testing reportedly consisted of a "snapshot" for each model tested: a single test, in a single lab, of a single specimen of each of the 24 models tested. February 2023 NODA Attachment at 4. DOE's own regulations reject the proposition that a single test of a single product specimen is sufficient to determine the efficiency of a product: such testing is not sufficient to determine the efficiency of cooking tops for purposes of product certification,⁶ nor would it be sufficient to establish product efficiency in the context of an enforcement action.⁷ It is unreasonable to treat such testing as sufficient for the more consequential purpose of standard-setting, particularly where the test procedure is novel and no other data concerning product efficiency as measured by that procedure is available.

B. There is no basis to conclude that any existing products with cast iron grates and a high-capacity burner would survive the proposed standard.

DOE's determination that the proposed standard is achievable for products with continuous cast-iron grates and "at least one" high-capacity burner rests on a

⁶ See 10 C.F.R. § 429.23 as proposed at 88 Fed. Reg. at 6903-04 (February 1, 2023) and 10 C.F.R. § 429.11.

⁷ See 10 C.F.R. § 429.110(c)(1)(i) and Paragraph (a) of Appendix A to Subpart C of Part 429 (requiring testing of a sample of four or more units).

single test result lower than that standard (an “IAEC” result of 1,187 kBtu/year as compared to the proposed standard requiring a maximum of 1,204 kBtu/year). As already discussed, this test result is not sufficiently robust to prove anything. However – even taken at face value – this result does not show that any existing product with cast iron burners and a high-capacity burner could survive the proposed standard.

The most obvious problem is that the test result in question would only need to be 1.5% higher to exceed the proposed standard. That difference is well within the margin of error for the applicable test procedure. Indeed, the test result is not lower than the standard by a margin that (even according to DOE) is either repeatable or reproducible under the test procedure. *See* 87 Fed. Reg. at 51498-99 (August 22, 2022). In any event – even if that test result was lower than the proposed standard by a margin that would be repeatable and reproducible for the individual unit tested – it would not be lower than the proposed standard by a margin that would reasonably enable a manufacturer to certify and sell the product as standards-compliant. This is particularly true in view of broader concerns about the variability of test results produced by the test procedure and the inherent unit-to-unit variability of efficiency test results for gas cooking tops. *See* 87 Fed. Reg. 51492, 51499-514500 (August 22, 2022). As manufacturers have indicated, product “designs would need to account for a wide margin relative to any standard

level that might be set, to avoid any potential non-compliance.” TSD at p. 5-23. Even if taken at face value, the single test result DOE relies upon is so close to the proposed standard that – rather than indicating that the tested product could survive the proposed standard – it indicates that it *could not*.

These concerns are amplified by the reported burner-specific results of DOE’s testing, which show surprisingly large variations in the performance of what appear to be identical burners on the same product. For example, the product identified as “SNOPR Unit ID 1” has three burners with identical inputs, for which “normalized per-burner test energy consumption” ranged from 1.20 to 1.58 Btu/g (a difference of 0.38 Btu/g) and there was an even greater difference in the results for two identical-input burners on the product identified as “SNOPR Unit ID 16.” See February 2023 NODA Attachment at Table 5.1. Notably, the only product with a test result lower than the proposed standard (“SNOPR Unit ID 2) had two burners with identical input capacities but materially different “normalized per-burner test energy consumption” results: 0.94 Btu/g in one case, and *18% higher* (1.09 Btu/g) in the other. *Id.* This variation in test results dramatically exceeds the margin (less than 1.5%) by which DOE’s single test result ostensibly satisfies the proposed standard.

In short, DOE’s test results – including the result for SNOPR Unit ID 2” on which DOE so heavily relies – provide no basis to conclude that *any* existing gas

cooking tops with cast iron grates and “at least one” high-capacity burner could survive the proposed standard.

C. There is no basis to conclude that the proposed standard is achievable for gas cooking tops with cast iron grates and high-capacity burners.

DOE claims that its proposed standard is achievable for products with cast-iron grates and “at least one” high-capacity burner. DOE indicates that “most of the gas cooking top products sold in the mass-market consumer conventional cooking product market” – including 96 percent of the products with cast iron grates and high-capacity burners – do not meet the proposed standard and would need to be redesigned to do so. SNO PR, 88 Fed. Reg. at 6880-81. As indicated above, DOE’s own numbers actually suggest that 100% of the products with cast iron grates and even a single high-capacity burner would need to be redesigned to achieve compliance with the proposed standard. However, there is no basis to believe that any of these products *could be so modified*, except by sacrificing their high-capacity burners and possibly their cast iron grates (at least the heavy-duty continuous cast iron grates that provide the greatest utility for consumers).

DOE “recognizes that the presence of certain features, such as heavy cast-iron grates and multiple [high-capacity] burners, may help consumers perceive a difference between commercial-style and residential-style gas cooking top performance.” SNO PR, 88 Fed. Reg. at 6836. In addition, DOE’s “testing indicated there is a difference in energy consumption between residential-style and

commercial-style gas cooking tops”⁸ with the result that “[p]remium commercial-style manufacturers would likely face more difficulty meeting potential standards set for the gas cooking top product class than other consumer conventional cooking product manufacturers.”⁹ Although DOE suggests that this difference in test results “could not be correlated to any specific utility provided to consumers,”¹⁰ there is an obvious correlation: the features that make these products attractive to so many consumers – heavy cast iron grates and high-capacity burners – adversely affect the results of efficiency testing.

DOE recognizes that cast iron grates negatively influence its test results, noting that “heavier grates result in more input energy being absorbed by the grate instead of the pan.” TSD at p. 3-38. DOE also admits that “efficiency” as measured by its test procedure can be improved *by eliminating high-capacity burners*. TSD at p. 5-9. There is no basis to conclude that material increases in the measured efficiency of products with cast iron grates and high-capacity burners are possible *without* sacrificing the utility these product features provide. DOE admits that optimized burner and grate designs “may reduce the consumer utility associated with [high-capacity] burners and continuous cast-iron grates”¹¹ and

⁸ SNO PR, 88 Fed. Reg. at 6836.

⁹ SNO PR, 88 Fed. Reg. at 6886.

¹⁰ SNO PR, 88 Fed. Reg. at 6842.

¹¹ SNO PR, 88 Fed. Reg. at 6842

acknowledges that other means to improve the measured efficiency of such products are constrained by the fact that “many of the strategies that yield higher efficiency (*e.g.*, reduced space between the burner and the grate) also tend to increase emissions of carbon monoxide,” which cannot exceed 800 ppm under existing safety requirements. TSD at p. 5-23, see TSD at p. 3-38. DOE nevertheless assumes that material improvements in the measured efficiency of gas cooking tops with cast iron grates and a high-capacity burner *must be possible* – and that the proposed standard is achievable for such products – because it has one test result for a product with cast iron grates and a high-capacity burner that is barely lower than its proposed standard. TSD at p. 5-23, SNOPR, 88 Fed. Reg. at 6886.

As already explained, DOE’s single test result provides no basis to conclude that the proposed standard is achievable for any products with cast iron grates and “one or more” high-capacity burners. Instead, it is a result for a product with relatively light cast-iron grates and *only one* high-capacity burner, SNOPR, 88 Fed. Reg. at 6845, and that test result suggests that the tested product *could not* survive the proposed standard. DOE tested *five other* gas cooking tops with cast iron grates and only a single high-capacity burner (Test Units No. 1, 3-4, 6 and 8) and the results for all five exceeded the proposed the standard.¹² DOE also tested

¹² See TSD at Tables 5.5.2 (identifying burner distributions) and 5.5.6 (test results).

fifteen products with *more than one* high-capacity burner (Test Units No. 5, 7, and 9-21), and the results for all of those products exceeded the proposed standard.¹³ Conversely, DOE tested three products that had *no high-capacity burners*, and the results for all three were *lower than the proposed standard*. NODA, 88 Fed. Reg. at 12605 Table II.2. These test results collectively suggest that the presence or absence of high-capacity burners is *the only material* determinant of whether products do or do not satisfy the proposed standard: with the possible exception of cast iron grates, no other factors appear to be material to the outcome.¹⁴ This conclusion is consistent with DOE’s assumption that *all products* that lack both cast iron grates and high-capacity burners already satisfy the proposed standard,¹⁵ as that assumption would only be valid if – as the test results described above suggest – no other factors are material to the “pass/fail” outcome.¹⁶

The impact that high-capacity burners have on the outcome of efficiency testing makes no technical sense, because there is no inherent reason why high-capacity burners would be any less efficient than lower-capacity burners, and

¹³ *See Id.*

¹⁴ Again, only one product with cast iron grates but *without a high-capacity burner* was tested, and the test result for that product was lower than the proposed standard and lower than the results for the two tested products that lack both cast iron grates and high-capacity burners. NODA, 88 Fed. Reg. at 12605 Tables II.1 and II.2.

¹⁵ *See* NODA, 88 Fed. Reg. at 12605.

¹⁶ As explained below, DOE’s burner-specific data suggests that the presence of cast iron grates might be enough – without any high-capacity burners – to keep an existing product from complying with the proposed standard.

DOE's previous product testing showed "no statistically significant correlation between burner input rate and the ratio of surface unit energy consumption to test load mass." SNOPR, 88 Fed. Reg. at 6835-36. It follows that the inability of products with high-capacity burners to satisfy the proposed standard must be a function of DOE's test procedure and proposed standard, not of any actual difference in burner efficiency. Further analysis of DOE's data demonstrates that this is true.

Despite the obvious impact that high-capacity burners have on its test outcomes, DOE claims that its most recent testing "showed that energy consumption for gas cooking tops continues to be more closely related to burner and grate design rather than input rate"¹⁷ and that "the test energy consumption for an individual burner, after normalizing for the mass of the test load, was not correlated to either burner input rate or style of cooking top." TSD at p. 5-3. These statements ignore the impact of input-related differences built into DOE's test procedure: specifically, differences attributable to the test vessel diameters specified by the test method.

Under the test procedure, test vessel diameters vary by input capacity as shown at 87 Fed. Reg. 51492 at 51542 Table 3.1 (August 22, 2022) (reproduced below).

¹⁷ SNOPR 88 Fed. Reg. at 6836.

TABLE 3.1—TEST VESSEL SELECTION FOR CONVENTIONAL GAS COOKING TOPS

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

DOE’s claim that there is no significant correlation between burner capacity and measured efficiency is based on a figure that “presents individual per-burner normalized test energy consumption, as a function of input rate for all gas burners in the DOE test sample.” TSD at p. 5-3 & Figure 5.5.1. When the same data points are grouped by the input ranges corresponding to differences in test vessel diameters (as shown in Figure 1 below), it is apparent that there are correlations between input capacity and normalized test energy consumption (and thus measured efficiency) for every input range except one for which a correlation cannot be determined because there are only three data points. For each group, the observed correlation is statistically significant (p-value less than 0.05) as shown in Table 1 below.

Figure 1

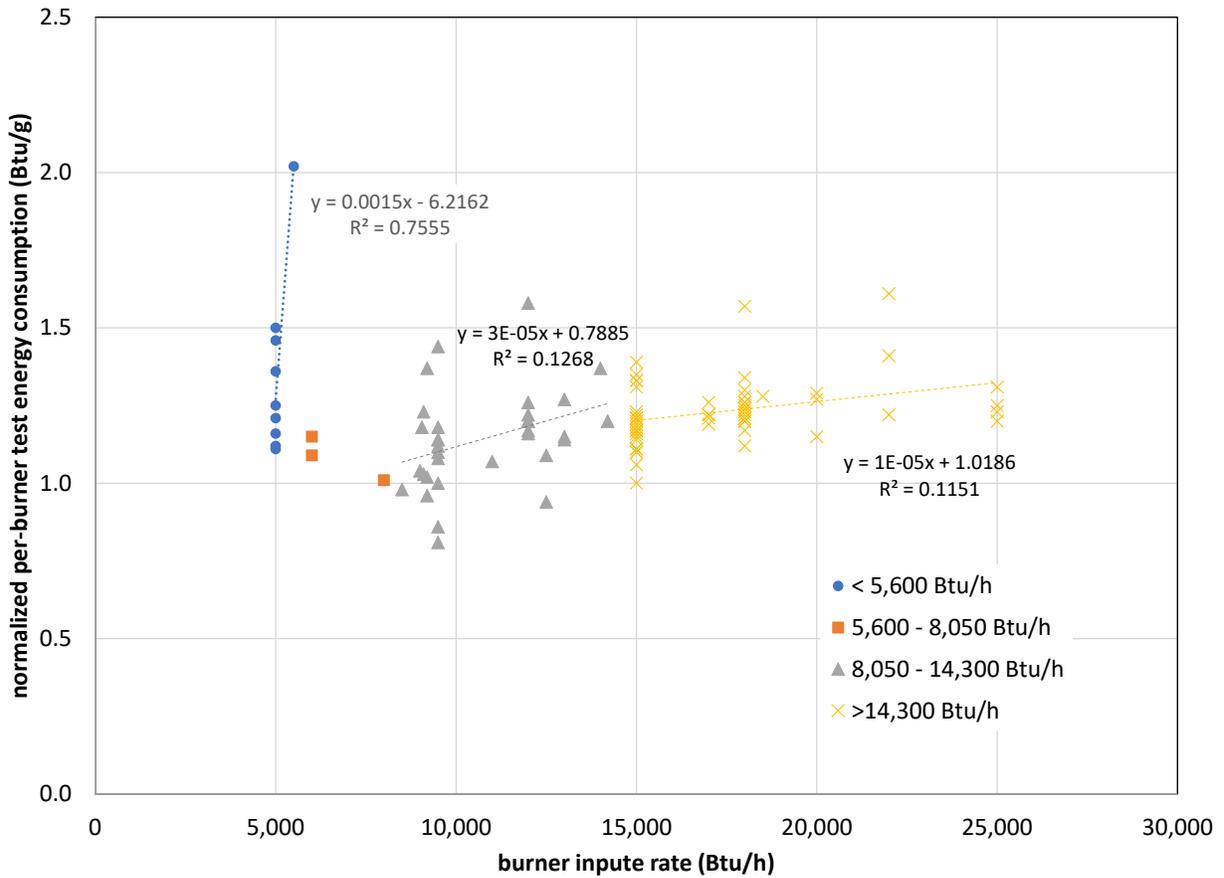


Table 1

Input Rate Range (Btu/h)	Pearson Correlation	p-value
<5,600	0.869	0.002
5,600 - 8,050	too few points	
8,050 - 14,300	0.356	0.042
>14,300	0.339	0.009

Within each group, the test vessel diameter is fixed and measured energy consumption increases (and measured efficiency decreases) with input capacity. The other key observation from Figure 1 is that the floor for energy consumption is higher (and thus the ceiling for measured efficiency is lower) for burners with a capacity of 14,300 Btu/h or more than it is for burners in the range of 8,050-14,300

Btu/h. For the latter (*i.e.*, “mid-capacity”) burners, the test vessel diameter appears to be close to optimal for measured efficiency at the low end of the input range for that group, as indicated by the relatively wide range of energy consumption results and the relatively steep increase in energy consumption (and thus decrease in measured efficiency) as burner input increases from the bottom to the top of the input range for that group. By contrast, the test vessel diameter for the high-capacity burner group is *already less-than optimum* for measured efficiency at the low end of the input range, with the result that the floor for energy consumption is higher (and maximum measured efficiency is lower) than is the case for mid-capacity burners and “gets worse” more gradually as input capacity increases. In both cases, the dynamic is the same: with the test vessel diameter fixed, more heat escapes from the bottom of the test vessel as burner input increases. The difference is that mid-capacity burners toward the lower end of the input range from 8,050-14,300 Btu/h can have significantly higher measured efficiencies than high-capacity burners because the former have the advantage of a more “efficient” *test vessel diameter* for their input level.

Although the energy consumption for mid-capacity burners is relatively low at the low end of the input range for such burners, it is important to note that the reported energy consumption for a significant number of mid-capacity burners is in the same range as that of high-capacity burners. *See* Figure 1. DOE assumes that

all gas cooking tops that lack both cast iron burners and high-capacity burners would satisfy the proposed standard,¹⁸ but there is insufficient data to establish that this is true. If it is not true, the impact of the proposed standard would be far more devastating than DOE's analysis suggests. If it is true, the fact that the reported energy consumption of some mid-capacity burners is in the same range as that of the high-capacity burners must be attributable to the fact that all of the tested products in this sample had cast iron grates. However, that suggests that compliance with the proposed standard may be difficult even for products with cast iron grates but *no high-capacity burners*. In any event, the test procedure effectively limits the measured "efficiency" that high-capacity burners can achieve, apparently to the extent that the standard is not achievable for products with cast iron grates and even a single high-capacity burner, let alone two or more.

D. The proposed standard is impermissible because it would result in the unavailability of gas cooking tops with key features and performance characteristics currently available to consumers.

Congress intended to ensure that appliance efficiency standards would not deprive purchasers of "product choices and characteristics, features, sizes, etc.," and that required efficiency improvements would be achieved "without sacrificing the utility or convenience of appliances to consumers." H.R. Rep. No. 100-11 at 22-23 (1987). Consequently, the statute authorizing DOE's appliance efficiency

¹⁸ NODA, 88 Fed. Reg. at 12604-05.

program precludes the adoption of standards that are likely to result in the unavailability of products with “performance characteristics (including reliability, features, sizes, capacities, and volumes) that are substantially the same as those generally available in the United States” when a standard issues. 42 U.S.C. § 6295(o)(4). The proposed standard for gas cooking tops unquestionably runs afoul of this express constraint on DOE’s rulemaking authority.

Many consumers prefer to cook with gas and particularly value gas cooking tops with continuous cast-iron grates and multiple high-capacity burners. The value consumers place on such products is demonstrated by the prevalence of such products in the market and the fact that – as DOE recognizes – “[p]remium commercial-style consumer conventional cooking products typically sell for more than twice the cost of mass-market consumer conventional cooking products.” SNOPR, 88 Fed. Reg. at 6886-67. DOE’s sample of products with high-capacity burners included more than twice as many products with two to six high-capacity burners than it did products with only one, and multiple high-capacity burners are a typical feature of the highest-rated gas cooking tops, at least in performance-oriented rankings. For example, the Good Housekeeping Institute Kitchen Appliances and Innovation Lab regularly tests gas cooking tops, and – while all of its ten highest rated gas cooking tops for 2023 include “at least one” high-capacity

burner – *nine of the ten included more than one*.¹⁹ Similarly, the Food Network Kitchen’s list of the eight best ranges included four gas options (best gas range overall, best budget gas range, best double-oven gas range, and best “splurge” range), all of which have *more than one* high-capacity burners.²⁰ Consumer Reports lists five recommended gas cooking tops in the “dual oven” category, ten in the “single oven” category, and ten in the “pro-style” category, and – of these 25 products – all have “at least one” high-capacity burner and 21 have two or more (with half of the “pro” category products having three or more high-capacity burners).²¹ The proposed standard is “likely to result in the unavailability” of *all of these products* and all products like them: the products commonly recognized as the “best” gas cooking tops from the standpoint of features and performance. As DOE has already been advised, at least one manufacturer of high-end gas cooking tops has confirmed that the proposed standard would wipe out its entire existing range of gas cooking tops, none of which could be redesigned to achieve compliance without compromising the features and performance characteristics that are their *raison d’etre*. See Doc. No. EERE-2014-BT-STD-0005-0767 in the docket for this proceeding.

¹⁹ [10 Best Gas Ranges and Stoves of 2023, According to Testing \(goodhousekeeping.com\)](#)

²⁰ [8 Best Ranges and Stoves 2023 Reviewed | Shopping : Food Network | Food Network](#)

²¹ [Best Range Reviews – Consumer Reports](#)

The importance of continuous cast iron grates and high-capacity burners to consumers is too obvious for legitimate debate. As DOE has acknowledged, “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,” and high-capacity burners “provide unique consumer utility and allow consumers to perform high heat cooking activities such as searing and stir-frying.” TSD at p. 5-9. Multiple high-capacity burners are desired by many consumers for the obvious reason that they provide utility a single high-capacity burner cannot, such as the ability to quickly reach a boil in multiple pots at the same time. Collectively, continuous cast-iron grates and high-capacity burners – particularly multiple high-capacity burners – are features that “provide faster heat up times for large loads, allow consumers to use larger cooking vessels while maintaining even heat distribution, increase product longevity, enhance customer safety, and improve performance overall.” TSD at p. 5-22.

DOE does not even claim that the proposed standard would not require substantial compromise of these features. It admits that “none of the gas units in the DOE test sample marketed as commercial style were capable of achieving” the proposed standard and that the one product allegedly “capable of meeting this efficiency level” was “marketed as residential-style and had significantly lighter cast-iron grates than the commercial-style units.” SNO PR, 88 Fed. Reg. at 6845.

DOE simply makes the unsubstantiated claim that the standard is achievable for products with at least some kind of cast iron grate and a single high-capacity burner and takes the position that consumers who demand gas cooking tops with heavy-duty continuous cast iron grates and multiple high-capacity burners can be required to settle for less. *See Id.* (inexplicably asserting that “the utility of commercial-style cooking products can be met with a single HIR burner” and presumably “significantly lighter cast-iron grates”). That is wrong on many levels, not the least of which is that DOE lacks the authority to sacrifice product quality and utility on the altar of energy conservation. 42 U.S.C. § 6295(o)(4).

Pursuant to 42 U.S.C. §§ 6295(o)(4), Spire hereby requests that any final rule in this proceeding include a written finding that interested persons have established by a preponderance of the evidence that the proposed standard is likely to result in the unavailability in the U.S. of gas cooking tops with “performance characteristics (including reliability, features, sizes, capacities, and volumes) that are substantially the same as those generally available in the United States” on the date the final rule is issued.

E. DOE’s Claimed Life-Cycle Cost Savings are Spurious.

DOE’s justification for the proposed standard rests in significant part on the claim that it would provide consumers with life-cycle cost (LCC) savings. Those claimed savings amount to average total life-cycle cost savings of only \$21.89 over

an average 14.5-year product life. SNOPR, 88 Fed. Reg. at 6876 Table V.28.

These alleged savings are not merely trivial: they are *so trivial* that there is no basis to believe that they are real. DOE's analysis – despite its complexity and artificially precise results – is simply far too uncertain to distinguish net LCC savings of less than \$22 from net LCC costs of similar magnitude. DOE's analysis is not based on information that can support estimates with that level of precision, let alone accuracy. Instead, it is based on estimates, assumptions, and guesswork, even as to fundamental issues such as whether gas cooking tops are actually used in the way – and with the frequency – DOE assumed in the analysis generating the miniscule LCC benefits claimed. For example, DOE's current estimate of one critical parameter (the average number of cooking top use cycles per year) *more than doubled* over its 2016 estimate. *See* SNOPR, 88 Fed. Reg at 6844. This is a far-from unique illustration of the enormous uncertainties evident in DOE's analysis. It follows that average LCC results so close to zero provide no basis to conclude that the proposed standard would not impose net LCC costs.

F. The proposed standard regulates performance rather than efficiency.

It is important to recognize that the difference in measured “efficiency” between mid-capacity burners and high-capacity burners is not just a matter of differences in measured efficiency attributable to test vessel diameters; it also reflects material difference in the performance these burners provide.

In particular, high-capacity burners test as less “efficient” than they are because the test procedure ignores the time required for them to heat the test mass to the specified test temperature of 90 degrees. As a result, the test procedure fails to account for the additional utility high-capacity burners provide: their ability to achieve desired temperatures significantly more quickly. This difference is important: stovetop cooking is largely an interactive activity, so time saved is generally *the consumer’s* valuable time, and patience in the kitchen is a rare virtue (hence the adage that “a watched pot never boils”). Because the test procedure ignores this important difference in the service high-capacity burners provide – a difference that consumers consider to be one of the principal advantages of high-capacity burners – its results are based on the energy consumption required to provide service that is materially different than that provided by lower-capacity burners. As a result, the difference in test results between higher-capacity burners and lower-capacity burners – as illustrated by the correlations shown in Figure 1 – reflect differences in burner *utility* rather than differences in burner *efficiency* (*i.e.*, differences in the energy required to provide *the same service*).

As a result, the purported “efficiency improvement” the proposed standard would require would not actually provide improved *efficiency*. Instead, it would deprive consumers of the additional performance that high-capacity burners provide. In short, it would deprive consumers of the ability to choose between

significant time savings and trivial operating cost savings by imposing the choice that consumers with high-capacity burners *already have* but can currently choose to reject.

- G. The proposed standard is unauthorized and unjustifiable because it would cause fuel switching that would increase overall energy consumption and carbon emissions while increasing operating costs for consumers.

The principal effect of the proposed standard would be to “decapitate” the market for gas cooktops by effectively banning some of the most appealing features and performance characteristics of these products. The result would be to make gas cooking tops less attractive to consumers, and – more specifically – to promote electrification by eliminating the features and performance characteristics that cause many consumers to prefer gas cooking tops. However, the Energy Policy and Conservation Act as amended, 42 U.S.C. 6291 et. seq. (“EPCA”) does not authorize the use of efficiency standards to promote electrification, and the “fuel switching” the proposed standard would promote would actually increase overall energy consumption in direct contravention of EPCA’s statutory purposes.

EPCA authorizes DOE’s appliance efficiency program for the specific purpose of achieving energy conservation through technologically feasible and economically justified improvements in the efficiency of regulated products. The specific provisions authorizing this program are codified in the U.S Code as Chapter 77 of Title 42 (entitled “Energy Conservation”), and the authorized

purpose of the program is confirmed by an explicit “Congressional statement of purpose” stating that the relevant statutory purposes are to “[t]o conserve energy supplies” and “provide for improved energy efficiency of . . . major appliances.” 42 U.S.C. § 6201(4)-(5). Although DOE takes the position that it can consider the environmental impacts of energy conservation standards in determining whether the standards are economically justified, EPCA requires that the purpose of standards be to *conserve energy by improving the efficiency of regulated products*, not to advance environmental or other objectives as such. The singular nature of EPCA’s statutory purpose is confirmed by the fact that DOE “may not prescribe” a standard – even a standard that would be technologically feasible, economically justified, and would have other salutary effects – if it “will not result in significant conservation of energy.” 42 U.S.C. § 6295(o)(3)(B).

The fundamental problem with fuel switching from gas to electric appliances is straight-forward: due to energy losses in the generation, transmission, and distribution of electricity, it takes nearly three times more energy to power an electric appliance than it does to power an equivalent gas appliance.²² As a result, fuel switching from gas to electric cooking tops can be expected to result in a significant increase in overall energy consumption, a problem that is significantly

²² EPA’s Energy Star program uses source energy to site energy ratios of 2.80 and 1.05 for grid electricity and natural gas respectively. *See* <https://portfoliomanager.energystar.gov/pdf/reference/Source%20Energy.pdf>

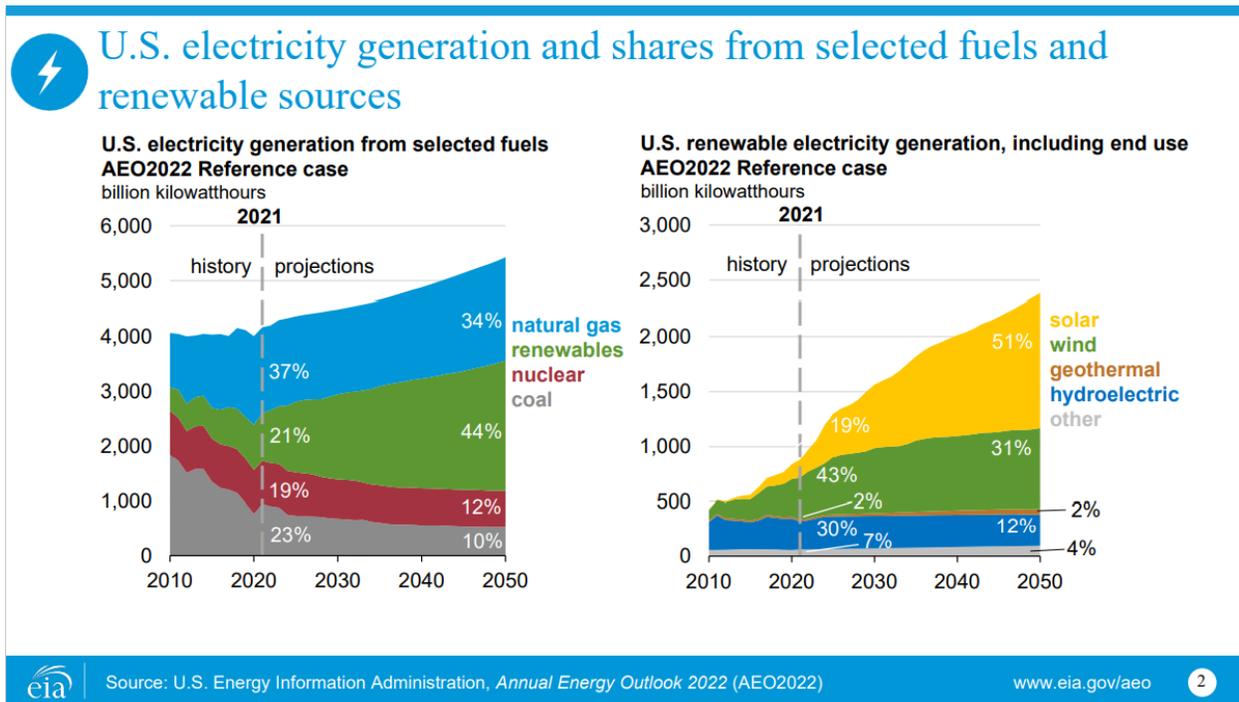
exacerbated by the fact that the proposed standard would require ostensible efficiency improvements that would – at most – provide minimal energy savings that would be dwarfed by the adverse energy conservation impacts of even a very small amount of “fuel switching” occurring as a result of the standard.

Accordingly, the proposed standard “will not result in significant conservation of energy” and thus is not authorized by EPCA. 42 U.S.C. § 6295(o)(3)(B).

A related problem is that the increase in overall energy consumption resulting from fuel switching would also result in an increase in overall carbon emissions. Although a fraction of the electricity generated in the United States is from renewable sources, the vast majority is thermally generated from carbon or nuclear fuels. As Figure 2 shows, recent Annual Energy Outlook estimates from the U.S. Energy Information Administration indicate that:

- 79% of the electricity generated in the United States is produced from carbon or nuclear fuels; and
- Even with dramatic projected increases in electricity generation from renewable energy sources, that percentage will still exceed 50% beyond the year 2050.

Figure 2



The obvious implication is that fuel switching from gas to electric products would increase overall *carbon emissions*, imposing net climate-related costs instead of providing climate benefits as DOE claims.

Another problem with the fuel switching impacts of the proposed standard is that they would be economically punishing for consumers. In short, natural gas is a far more economical option for consumers than electricity. According to DOE's own estimate, the average cost of electricity to consumers is over three times higher than natural gas on a Btu-equivalent basis. See 87 Fed. Reg. 12681 at 12682 Table 1 (March 7, 2022). DOE's test procedure substantially overstates the efficiency of electric cooking tops as compared to gas cooking tops, but – even

with that distorted comparison – the dramatic difference in energy costs makes gas cooking tops far more economical for consumers.

CONCLUSION

The proposed standard for gas cooking tops is based on test results that are inadequate to support reasoned decision-making and that – even taken at face value – do not support DOE’s claims that the proposed standard is achievable for gas cooking tops with cast iron grates and “at least one” high-capacity burner. Indeed, it is not even clear that products *without* cast iron grates or high-capacity burners can be expected to satisfy the proposed standard as DOE assumes. In any event, the record shows that the proposed standard is likely to result in the unavailability of the features and performance characteristics that make gas cooking tops the products of choice for many consumers and is therefore unauthorized. 42 U.S.C. § 6295(o)(4).

In addition, there is no credible basis to assert that the proposed standard would provide life-cycle cost benefits for consumers, is economically justified, or would result in significant conservation of energy as required by 42 U.S.C. § 6295(o)(3)(B). Instead, the proposed standard would seriously damage the market for gas cooking tops, thereby causing fuel switching likely to increase overall energy consumption, carbon emissions, and consumer utility bills.

Spire urges DOE to withdraw the SNOPR and reconsider its regulatory approach.

Respectfully Submitted,



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