

Before the

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

COMMENTS OF THE AMERICAN GAS ASSOCIATION,
THE AMERICAN PUBLIC GAS ASSOCIATION,
THE NATIONAL PROPOANE GAS ASSOCIATION,
SPIRE INC., SPIRE MISSOURI INC., &
SPIRE ALABAMA INC.

In response to the Notification of Availability of Preliminary
Technical Support Document for
Energy Conservation Standards for Consumer Water Heaters

87 Fed. Reg. 11327 (March 1, 2022)
Docket No. [EERE-2017-BT-STD-0019](#)
RIN 1904-AD91

May 16, 2022

Introduction

The American Gas Association (“AGA”), American Public Gas Association (“APGA”), National Propane Gas Association (“NPGA”), Spire Inc., Spire Missouri Inc. and Spire Alabama Inc. (collectively, “Commenters”) appreciate the opportunity to comment on the Department of Energy’s (“DOE”) above-captioned notification of availability (“NOA”) concerning the preliminary technical support document (“TSD”) for energy conservation standards for consumer water heaters (“CWHs”).

AGA, founded in 1918, represents more than 200 local energy companies that deliver clean natural gas throughout the United States. There are more than 77 million residential, commercial, and industrial natural gas customers in the U.S., of which 95 percent — more than 73 million customers — receive their gas from AGA members. AGA is an advocate for natural gas utility companies and their customers and provides a broad range of programs and services for member natural gas pipelines, marketers, gatherers, international natural gas companies, and industry associates. Today, natural gas meets more than one-third of the United States’ energy needs.

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

NPGA is the national trade association of the propane industry with a membership of about 2,500 companies, and 36 state and regional associations representing members in all 50 states. NPGA’s membership includes retail marketers of propane gas who deliver the fuel to the end user, propane producers, transporters and wholesalers, and manufacturers and distributors of equipment, containers, and appliances. Propane, or liquefied petroleum gas, is used in millions of installations nationwide for home and commercial heating and cooking, in agriculture, in industrial processing, and as a clean air alternative engine fuel for both over-the-road vehicles and industrial lift trucks.

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

Commenters provide the energy needed to fuel the gas-fired consumer water heaters, thus making them critical stakeholders in this work. Commenters support and actively invest in energy efficiency. However, Commenters do not support appliance efficiency standards that impose

unjustified costs on consumers or that deprive consumers of gas products that are suitable for their needs. Such standards are not authorized by statute and would be harmful to gas utility customers.

Comments

Several of the Commenters submitted comments in response to DOE's previous request for information concerning standards for consumer water heaters.¹ Joint Commenters' RFI Comments started with five major points:

1. DOE should not adopt standards that would make atmospherically-vented water heaters unavailable;
2. DOE should not simply assume that purchasers would decline to make economically beneficial efficiency investments in the absence of standards;
3. DOE must recognize that it cannot determine the economic impact of standards for water heaters without developing a base case for analysis that reflects the impacts of actual purchasing behavior.
4. DOE should stop using incorrect and overstated energy prices for purposes of its LCC and payback analyses; and
5. DOE should collect and preferentially rely on real-world data, at least to confirm the validity of its analysis of product and installation costs.²

Commenters believe that additional consideration of all of these issues is warranted. Unfortunately, DOE declined to provide adequate time for review of its lengthy and complex Technical Support Document ("TSD"). Accordingly, Commenters will focus on only two of the principal issues. [Refer to attached technical comments]

- 1. DOE should reconsider its position with respect to standards that would make atmospherically-vented water heaters unavailable and should consider the need for separate product classes for models that operate without an external electric supply.**

As DOE is well aware, minimum efficiency standards that can only be achieved by condensing CWHs would result in the unavailability of atmospherically-vented gas-fired water heaters. In the case of residential furnaces, such an outcome would be precluded by the "unavailability" provision of the statute.³ The issues with respect to residential furnaces have been fully addressed in previous comment submissions,⁴ and the issues with respect to gas storage water

¹ Spire-APGA-AGA Comments in response to DOE's RFI pertaining to ECS for CWHs (Jul. 6, 2020) (hereafter, the "Joint Commenters' RFI Comments"), available at <https://www.regulations.gov/comment/EERE-2017-BT-STD-0019-0005>; 85 Fed. Reg. 30853 (May 21, 2020).

² See Joint Commenters' RFI Comments at p. 2-4.

³ 42 U.S.C. § 6295(o)(4).

⁴ See EERE-2018-BT-STD-0018-0044 (and its attachments), EERE-2018-BT-STD-0018-0080, EERE-2018-BT-STD-0018-0063.

heaters are not materially different.⁵ The relevant legal principle is disarmingly simple: where it has been shown that buildings are architecturally designed to accommodate products with some characteristics but not others, DOE must preserve the availability of products with those characteristics instead of imposing standards that would require modification of the buildings designed for them.⁶ As is true in the case of residential furnaces, standards for storage water heaters that can be achieved only by condensing products would unquestionably violate that principle.⁷ The issues with respect to instantaneous water heaters appear to be different, but Commenters have not had sufficient opportunity to assess them in detail.

In response to earlier comments concerning the applicability of the “unavailability” provision of the statute, the TSD takes the position that DOE has since addressed this issue by publishing an interpretive rule denying that the “unavailability provision” of the statute applies to standards that would result in the unavailability of atmospherically-vented gas-fired products.⁸ Commenters urge DOE to reconsider its position. That interpretive rule – essentially a summary reversal of an earlier interpretive rule reaching the opposite conclusion – is a transparent and legally meritless effort to circumvent an express statutory constraint on DOE’s rulemaking authority⁹ and is the subject of a legal challenge now pending in the D.C. Circuit. By denying that the “unavailability provision” of the statute applies to minimum efficiency standards that would result in the unavailability of atmospherically-vented gas-fired products, DOE is committing itself to an unlawful course going forward and is failing to consider the potential for alternative standards based on the appropriate employment of separate product classes.

This issue may not matter with respect to storage water heaters, because DOE’s analysis suggests that condensing-level standards for such product would not be justified. However, DOE’s analysis appears to suggest that condensing-level standards would be economically justified in the case of instantaneous water heaters, in which case DOE should consider whether the unavailability of atmospherically-vented instantaneous water heaters would result in the “unavailability” of “performance characteristics (including reliability), features, sizes, capacities, and volumes” for purposes of 42 U.S.C. § 6295(o)(4).

DOE should also consider the need for separate product classes for gas-fired water heaters that can operate without external electric power, which have the unique utility of being able to operate during power outages or entirely “off the grid.” Consumer gas fired water heaters that operate without external electric power would also be eliminated if a condensing only standard is adopted. Water heaters that do not require electricity have a standing pilot and are non-condensing, and hence would become unavailable.

⁵ Prior comment submissions addressing these issues are incorporated in this submission as Attachments A-D.

⁶ See Attachment B of EERE-2018-BT-STD-0018-0080 at 10-12.

⁷ See Attachment C of EERE-2018-BT-STD-0018-0063 at p. 4 (explaining the basic technical issues), Attachment A of EERE-2018-BT-STD-0018-0044 (and its attachments) at pp. 3-5 & 7-10, and Attachment B of EERE-2018-BT-STD-0018-0080 at pp. 10-12 & 20-23 (explaining the relevant practical issues).

⁸ See TSD at p. 2-12.

⁹ See joint comments of APGA et al. in response to DOE’s notice of proposed interpretive rule reversal, available at <https://www.regulations.gov/comment/EERE-2018-BT-STD-0018-0140>.

2. DOE must address its failure to consider the nature and extent of any relevant market failures and its related failure to correct the errors created by its “random assignment” methodology.

DOE’s failure to consider whether and to what extent there are relevant market failures to justify the need for regulatory intervention is a remarkable – and problematic – feature of its approach to standards regulation. To justify any new energy conservation standards, DOE must consider whether and to what extent there are market failures that significantly impede economically beneficial investments in higher-efficiency products. Both the Court in *APGA v. DOE* and the National Academies of Sciences concluded that DOE’s failure to consider the nature and impact of relevant market failures is a critical flaw in its regulatory analysis.¹⁰ DOE’s attempts to dismiss prior comment on this issue (see TSD at 2-58 – 2-59) are non-responsive.

As a result of its failure to consider actual purchasing behavior, DOE’s Lifecycle Cost (LCC) analysis completely ignores the fact that—in the absence of new standards—purchasers tend to make the most economically attractive efficiency investments and decline those with the most substantial net costs. Instead of attempting to account for actual purchasing behavior, DOE’s analysis “assigns” even the most economically attractive and highest net-cost efficiency investment outcomes to the base case for analysis randomly, as though purchasers never consider the economics of potential efficiency investments regardless of the economic stakes involved. As a result, DOE’s analysis is based on a universe of purported “rule outcome” efficiency investments in which highly favorable economic outcomes are substantially overrepresented, large net-cost outcomes are substantially underrepresented, and the average LCC outcome is substantially overstated. DOE’s efforts to dismiss previous comment on this issue (TSD at 2-44) are also non-responsive.

To correct its analysis, DOE should start by recognizing that the “random assignment” methodology has the perverse effect of generating purported regulatory benefits from cases in which the higher efficiency product has lower installed costs.¹¹ In such cases, the basic premise of efficiency regulation—that market failures might cause purchasers facing higher initial costs to forgo efficiency investments that would be economically beneficial over time—does not even apply. Because there is no basis to suggest that standards are needed to ensure that consumers will choose more efficient products when those products have lower initial costs, DOE should assign such cases to the base case for analysis rather than assigning them to the base or standards cases randomly. In DOE’s 2016 analysis of proposed residential furnace standards, this simple

¹⁰ See *Am. Public Gas Ass’n v. DOE*, 22 F.4th at 1018, 1027 (D.C. Cir. 2022); National Academies of Sciences, Engineering and Medicine, *Review of Methods Used by the U.S. Department of Energy in Setting Appliance and Equipment Standards* (2021), available at <http://nap.edu/25992> (“NAS Report”) at 3, 21-22, 24-25, 75-78 and Recommendations 2-2 and 4-13.

¹¹ This scenario often occurs in the context of new construction (or major renovations) where the avoided cost of constructing a Category I venting system can be greater than difference in purchase price between high efficiency condensing products and lower-efficiency alternatives.

correction would have eliminated over half of the total claimed consumer benefits.¹² To determine whether there is any potential for new standards to produce net LCC benefits, Commenters request that DOE make this simple correction to its LCC analysis and report the resulting change in the average LCC outcome for its standards before it proceeds with further standards development activity.

If – after that simple correction – DOE’s analysis produces positive LCC results, Petitioners request that DOE perform an additional screening analysis by making a very elementary correction to account for the fact that—even when a more efficient product has higher initial costs—purchasers can be expected to make at least the most obviously beneficial efficiency investments whether or not new standards are imposed. In particular, it is difficult to envision circumstances in which a purchaser would fail to invest in a more efficient product that would pay for itself within a year. Accordingly, DOE should assign all such economic outcomes to the base case for analysis rather than assigning them randomly. This additional limited correction would certainly be conservative (*i.e.*, it would not, by itself, go far enough to correct the much broader overrepresentation of high net-benefit outcomes produced by DOE’s random assignment methodology), but it would provide a useful screening test to determine whether there is any reasonable possibility that new standards could produce net LCC benefits for consumers. Petitioners request that DOE also make this correction and report the resulting change in the average LCC outcome for those standards before it proceeds with further standards development activity.

DOE should recognize that there would be no justification for a failure to make at least the two simple corrections identified above. There is no viable theory in which standards would be necessary to induce purchasers to choose higher-efficiency products when they have the lowest installed cost. Similarly, it would be unreasonable to suggest either that standards are needed to induce purchasers to make efficiency investments that would pay for themselves within a year or that assigning all such outcomes to the base case for analysis would go too far in correcting for the broader overrepresentation of high-benefit investments in the purported “rule outcomes” generated by DOE’s random-assignment methodology.

If DOE believes that there are market failures that could cause purchasers facing higher initial costs to forego economically beneficial efficiency investments, DOE should:

1. identify the specific nature and impact of any market failures allegedly interfering with sound economic decision-making on the part of purchasers of consumer water heaters; and
2. disclose the evidence DOE relied upon to support its assessment of such market failures.

¹² See Comments of Spire Inc. on DOE’s Supplemental Notice of Proposed Rulemaking on Energy Conservation Standards for Residential Furnaces at p. 60-61 and Attachment C (Gas Technology Institute Report entitled Technical Analysis of DOE Supplemental Notice of Proposed Rulemaking on Residential Furnace Minimum Efficiencies (January 4, 2017)) at p. 23. The Comments of Spire, Inc. are identified as Document No. EERE2014-BT-STD-0031-0309 in Docket No. EERE-2014-BT-0031, and that submission – along with its Attachment C – can be accessed at <https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0309>.

In addition, to enable interested parties to understand and meaningfully critique DOE's analysis of the impact of any market failures on baseline purchasing behavior, Commenters request that DOE:

3. disclose the range and distribution of the most economically beneficial individual LCC outcomes in both its base case and rule outcome case; and
4. explain its justification for the distribution of those outcomes.

At a minimum, this information and explanation should separately address individual LCC outcomes with no or negative payback periods, individual LCC outcomes with positive payback periods not exceeding one year; and the ten percent of individual LCC outcomes with the largest net benefits.

Similarly, Commenters request that DOE disclose:

5. the range and distribution of the highest net cost individual LCC outcomes in both its base case and rule outcome case; and
6. explain its justification for the distribution of those outcomes.

At a minimum, this information and explanation should address the ten percent of individual LCC outcomes with the largest net costs.

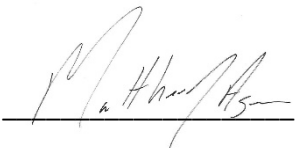
In addition, DOE should make available the actual data inputs for each of the 10,000 trial cases in its analysis. This important information will allow key stakeholders to fully understand DOE's analysis in order to develop meaningful comments.

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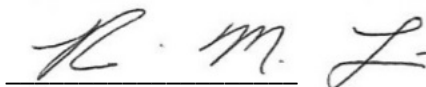
Commenters appreciate the opportunity to review and provide technical feedback on the TSD. With the robust amount of information underlying rulemakings for energy conservation standards, it is imperative that stakeholders are given the appropriate amount of time to review supportive data. With the limited time allotted, Commenters conducted a review of the document, which is incorporated as Attachment E.

We thank you for the review and consideration of these comments. If you have any questions regarding this submission, please do not hesitate to contact us.

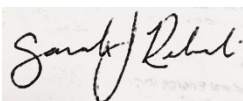
Respectfully submitted,



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