

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

November 9, 2020

Ms. Lysia Bowling
U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy
1000 Independence Avenue SW
Washington, DC 20585

RE: Docket Number EERE-2018-BT-STD-0018: Notice of Supplemental Proposed Interpretive Rule for Energy Conservation Standards for Residential Furnaces and Commercial Water Heaters

Dear Ms. Bowling:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP), American Council for an Energy-Efficient Economy (ACEEE), Consumer Federation of America (CFA), and National Consumer Law Center, on behalf of its low-income clients (NCLC) on the notice of supplemental proposed interpretive rule for energy conservation standards for residential furnaces and commercial water heaters. 85 Fed. Reg. 60090 (September 24, 2020). We appreciate the opportunity to provide input to the Department.

In the July 2019 proposed interpretive rule, DOE proposed that standards that would limit the market to gas products that use condensing technology would result in the unavailability of a “performance-related feature.”¹ In our comments on the proposed interpretive rule, we explained how DOE failed to show that the differences between condensing and non-condensing products are anything other than differences in cost, and that cost is not a “performance-related feature.”² In the supplemental proposed interpretive rule, DOE is considering a modified interpretation that would consider either compatibility with Category I venting or compatibility with each existing venting technology to be a “performance-related feature.”³ DOE does not define what Category I venting means, but in the July 2019 proposed interpretive rule, DOE stated that Category I venting “has a non-positive vent pressure and is suitable for non-condensing appliances.”⁴ The presence of a “non-positive vent pressure” and suitability for non-condensing appliances are clearly not “performance-related features,” and as we have described in our previous comments, any impacts of higher efficiency levels on venting are purely economic.

As explained in the comments from CFA and NCLC on the July 2019 proposed interpretive rule, DOE’s proposed interpretation would harm consumers—especially low-income consumers—by ensuring that

¹ 84 Fed. Reg. 33020 (July 11, 2019).

² <https://www.regulations.gov/document?D=EERE-2018-BT-STD-0018-0095>.

³ 85 Fed. Reg. 60095.

⁴ 84 Fed. Reg. 33015.

inefficient gas products, including residential gas furnaces, continue to be sold.⁵ The supplemental proposed rule would similarly harm consumers.

In addition to our previous comments in this docket, below we describe two fundamental issues with DOE's proposed interpretation: the Department has not clearly defined which products the interpretive rule would apply to; and DOE has not provided a rationale for the proposed interpretation that applies to the scope of potentially affected products. We also explain how DOE's stated intent in the supplemental proposed interpretive rule is not achievable, and we describe the many potential venting solutions for high-efficiency gas appliances, including solutions that allow for venting a condensing product along with an atmospheric water heater through an existing vent. Finally, we explain that while economic impacts on consumers are clearly a key consideration in evaluating potential amended standards, these impacts must be considered in the context of individual rulemakings, which can consider the specific circumstances of each product.

DOE has not clearly defined which products the interpretive rule would apply to. Both the proposed interpretive rule and the supplemental proposed interpretive rule state that the interpretation would apply to "natural gas and/or propane gas furnaces, water heaters, or similarly-situated products/equipment (where permitted by EPCA)."⁶ However, DOE has not defined which products would be considered "similarly-situated products/equipment." DOE has also not explained whether the interpretation would apply to both residential and commercial gas furnaces and gas water heaters, or whether the interpretation would apply to both weatherized and non-weatherized furnaces. Therefore, it is not possible to fully evaluate the potential impact of DOE's proposal.

DOE has not provided a rationale for the proposed interpretation that applies to the scope of potentially affected products. In the supplemental proposed rule, DOE describes three factors outlined in the July 2019 proposed interpretive rule that the Department used to justify its proposal: the potential for complicated/costly installations; potential changes to a home's aesthetics; and the potential for enhanced fuel switching.⁷ In our comments on the proposed interpretive rule, we explained how these factors were purely cost considerations, and that costs cannot be considered a "performance-related feature."⁸ DOE also describes concerns about energy affordability, in particular for low-income consumers. We have previously explained that low-income consumers are disproportionately renters, who do not bear the costs of new equipment, and that low- and moderate-income consumers would be harmed by DOE's proposal. We have also explained that the best way for DOE to evaluate the impacts on consumers is through the rigorous economic analysis that DOE conducts for each individual rulemaking.⁹

However, even if the factors DOE outlines to attempt to support the proposed interpretation had any merit, the Department's description of each factor appears to relate specifically to residential furnaces; DOE has not even attempted to provide a rationale for the proposed interpretation with respect to other products, and, in particular, with respect to commercial equipment. As described above, DOE has not clearly defined which products the interpretive rule would apply to. However, based on the title of

⁵ <https://www.regulations.gov/document?D=EERE-2018-BT-STD-0018-0093>.

⁶ 84 Fed. Reg. 33020; 85 Fed. Reg. 60095.

⁷ 85 Fed. Reg. 60093-94.

⁸ <https://www.regulations.gov/document?D=EERE-2018-BT-STD-0018-0095>.

⁹ <https://www.regulations.gov/document?D=EERE-2018-BT-STD-0018-0095>;
<https://www.regulations.gov/document?D=EERE-2018-BT-STD-0018-0093>.

the supplemental proposed interpretive rule, it appears that, at a minimum, the proposed interpretation would apply to residential furnaces and commercial water heaters.¹⁰ Regarding the potential for complicated/costly installations, DOE points only to the 2016 SNOPR for residential furnaces for examples of installation costs. Regarding potential changes to a home's aesthetics, these are irrelevant for commercial equipment. Finally, in regard to the potential for enhanced fuel switching, DOE refers to consumers who may show a "proclivity" for gas, which again seems irrelevant for commercial equipment. In addition to these three factors, the potential concern about energy affordability—particularly for low-income consumers—is again irrelevant for any commercial equipment.

DOE's stated intent in the supplemental proposed interpretive rule is not achievable. In the supplemental proposed interpretive rule, DOE states that the Department's focus "would be to ensure compatibility with existing venting."¹¹ However, there are many situations today where there is no product on the market that is compatible with the existing venting system due to current safety requirements. As DOE has noted in multiple rulemakings, the National Fuel Gas Code has lining requirements for chimneys that effectively require that all chimneys be lined in order to install a new gas furnace or boiler. However, prior to 1995, building codes did not require lining of chimneys. Therefore, in homes where the chimney was built before 1995 and remains unlined, it would need to be lined in order to install a new non-condensing furnace or boiler that is compatible with Category I venting.¹² Similarly, with Type B vents,¹³ when a new non-condensing furnace or boiler that is compatible with Category I venting replaces an existing natural draft non-condensing product, in almost all cases either the vent connectors need to be replaced or the entire venting system needs to be resized.¹⁴

DOE has always accounted for these additional installation costs that would be present in the base case (i.e. costs that would be incurred even if there was no change to the minimum efficiency standards). For example, in the 2016 SNOPR for residential gas furnaces, DOE assumed that 0.9% of the existing stock would require chimney relining in 2022 when replacing the existing furnace with a new furnace just meeting the current standards (80% AFUE). Further, DOE assumed that for the natural draft gas furnaces that will account for 1.5% of the existing stock, 75% of the venting systems would require replacement of the vent connectors and an additional 20% would require resizing of the entire venting system in the base case.¹⁵ In the 2016 final rule for residential gas boilers, DOE assumed that chimney relining would be necessary in 6% of installations in 2021 when installing a new gas-fired hot water boiler just meeting the current standards (82% AFUE). DOE also assumed that the installations of 2% of gas-fired hot water boilers would require either installing new vent connectors or resizing the vent system in the base case.¹⁶ Similarly, in the 2016 direct final rule for commercial furnaces, the 2020 final rule for commercial

¹⁰ The title of the notice is "Energy Conservation Program for Appliance Standards: Energy Conservation Standards for Residential Furnaces and Commercial Water Heaters."

¹¹ 85 Fed. Reg. 60095.

¹² See, for example: <https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0217>. pp. 8D-18, 8D-19.

¹³ Type B vents are double-wall vents with a galvanized steel outer tube surrounding an aluminum inner tube.

¹⁴ <https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0217>. p. 8D-20;

<https://www.regulations.gov/document?D=EERE-2012-BT-STD-0047-0070>. pp. 8C-12, 8C-13.

¹⁵ <https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0217>. p. 8D-20.

¹⁶ <https://www.regulations.gov/document?D=EERE-2012-BT-STD-0047-0070>. pp. 8C-11, 8C-13.

boilers, and the 2016 NOPR for commercial water heaters, DOE assumed that some installations would require chimney relining, chimney resizing, or vent resizing in the base case.¹⁷

Venting must always be addressed when installing a gas appliance. But importantly, this is true today, including when installing a product just meeting the current minimum efficiency standards. Compatibility with existing venting is not a “performance-related feature,” but even if it were, the availability of products compatible with Category I venting would not ensure compatibility with existing venting systems.

Solutions are available to address installation barriers related to venting systems for gas products. In the supplemental proposed interpretive rule, DOE suggests that “physical changes associated with a condensing appliance may change a home’s aesthetic...thereby impacting consumer utility.”¹⁸ However, there are many different venting solutions for high-efficiency appliances—including solutions that involve using the existing chimney or Type B vent—that would not affect living or storage space within a home.

In most cases, a condensing furnace or boiler is vented through a side wall using plastic (PVC) piping. In cases where sidewall venting is not practical or feasible, the appliance can be vented vertically using PVC piping. There are also commercially available options for venting a condensing product along with an atmospheric water heater through the existing chimney or Type B vent. DuraVent’s FasNSeal product can be used to vent a condensing furnace or boiler along with an atmospheric water heater in an existing Type B vent.¹⁹ The FasNSeal product works for the replacement of a Category I appliance with a condensing appliance using a corrosion-resistant stainless-steel liner within the existing Type B vent. A specialized vent cap vents the two products (i.e. the condensing furnace or boiler and the atmospheric water heater) individually without taking up additional space.²⁰ A condensing furnace or boiler and an atmospheric water heater can also be vented in an existing chimney using two separate flexible liners: a corrosion-resistant stainless-steel liner for the new condensing furnace or boiler, and an aluminum liner for the existing water heater.²¹ Furthermore, if the existing masonry chimney liner is in good condition and meets size requirements, the water heater flue may be able to be vented through the existing chimney liner itself and the aluminum liner would not be needed.

There are also additional venting solutions that are under development. DOE has already explored DuraVent’s vent retrofit design that utilizes a double-walled flexible vent for concentric venting of multiple products.²² This product design could be used in an existing masonry chimney: an outer aluminum liner would support the water heater flue while an inner stainless-steel liner would provide venting for the new condensing furnace or boiler. Oak Ridge National Laboratory (ORNL) has also developed another solution: the EntrainVent uses the concept of jet entrainment and has the potential to provide a low-cost solution for venting Category I and Category IV (i.e. condensing) products in an existing chimney.²³ With this product, the flue from a power-vented condensing furnace produces a

¹⁷ <https://www.regulations.gov/document?D=EERE-2013-BT-STD-0021-0050>. pp. 8D-6, 8D-7;
<https://www.regulations.gov/document?D=EERE-2013-BT-STD-0030-0083>. p. 8D-11;
<https://www.regulations.gov/document?D=EERE-2014-BT-STD-0042-0016>. p. 8D-12.

¹⁸ 85 Fed. Reg. 60093.

¹⁹ <https://duravent.com/fasnseal-80-90/>.

²⁰ https://duravent.com/wp-content/uploads/2019/12/FasNSeal_80-90_Catalog.pdf.

²¹ <https://web.ornl.gov/sci/buildings/docs/Condensing-Furnace-Venting-Part2-Report.pdf>.

²² <https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0217>. pp. 8L-1, 8L-2.

²³ <https://web.ornl.gov/sci/buildings/docs/Condensing-Furnace-Venting-Part1-Report.pdf>.

negative pressure in the water heater vent to allow for acceptable venting. Three different configurations can support the EntrainVent design in an existing chimney, and ORNL notes that each configuration could have advantages in certain applications. While neither of these products are commercially available today, they illustrate the potential for innovation and technology to provide additional venting solutions beyond those already commercially available.

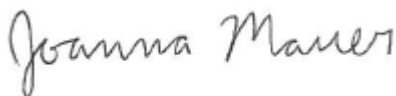
Finally, consumers or commercial building owners who are replacing their heating equipment also have the option of installing an electric heat pump.

Issues related to venting of gas appliances are appropriately considered in individual rulemakings. As described above, there are many potential venting solutions for high-efficiency gas appliances. Therefore, any considerations regarding the impact of potential higher standard levels on venting are purely cost considerations. DOE itself states in the supplemental proposed interpretive rule that “DOE continues to believe that costs are properly addressed in the economic analysis portion of its rulemakings.”²⁴ Yet DOE continues to propose an interpretation that would pre-determine the outcome of future rulemakings without conducting an economic analysis. Furthermore, the venting considerations of each product potentially covered by DOE’s interpretation are different (e.g. venting a gas appliance in a home vs. venting a gas appliance in a commercial building). While economic impacts on consumers, including the impacts on low-income consumers, are clearly a key consideration in evaluating potential amended standards, these impacts must be considered in the context of individual rulemakings, which can consider the specific circumstances of each product.

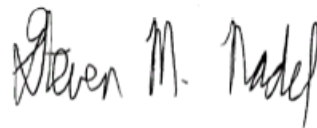
In summary, DOE’s proposal is flawed, unclear, not justified, and it would harm consumers. It appears to be an effort to keep inefficient products on the market. We strongly urge DOE to withdraw the proposed and supplemental proposed interpretive rules.

Thank you for considering these comments.

Sincerely,



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²⁴ 85 Fed. Reg. 60094.