



[6450-01-P]

DEPARTMENT OF ENERGY

10 CFR Parts 430 and 431

Energy Conservation Program for Appliance Standards: Energy Conservation Standards for Residential Furnaces and Commercial Water Heaters

AGENCY: Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy.

ACTION: Granting in part and denying in part a petition for rulemaking; notice of proposed interpretive rule; request for comment.

SUMMARY: This document responds to the petition for rulemaking submitted on October 18, 2018 (Gas Industry Petition), by a number of parties asking the Department of Energy (DOE) to issue an interpretive rule and to withdraw related, previously published proposals. The Gas Industry Petition was published in the *Federal Register* on November 1, 2018, for public review and input. After carefully considering the public comments on the petition, DOE has decided to grant the request for an interpretive rule. DOE has not made, and does not presently propose, any changes or revisions to current policies, legal requirements, or rulemakings with respect to condensing and non-condensing products/equipment. Decisions about whether and how this interpretation of the term “feature” in the context of condensing/non-condensing products/equipment will apply to existing rulemakings will be the subject of subsequent actions. Thus, DOE is denying the Gas Industry Petitioners’ request to withdraw its earlier proposed rules for residential furnaces and commercial water heaters.

DATES: Written comments and information are requested on or before **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Interested persons are encouraged to submit comments, identified by “Energy Conservation Standards for Residential Furnaces and Commercial Water Heaters,” by any of the following methods:

Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.

E-mail: ResFurnaceCommWaterHeater2018STD0018@ee.doe.gov. Include Docket No. EERE-2018-BT-STD-0018 in the subject line of the message. Submit electronic comments in WordPerfect, Microsoft Word, PDF, or ASCII file format, and avoid the use of special characters or any form of encryption.

Postal Mail: Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, Mailstop EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. If possible, please submit all items on a compact disc (CD), in which case it is not necessary to include printed copies.

Hand Delivery/Courier: Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, 950 L’Enfant Plaza, SW., Suite 600, Washington, D.C., 20024. Telephone: (202) 287-1445. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

No telefacsimilies (faxes) will be accepted. For detailed instructions on submitting comments and additional information, see section VI of this document (Public Participation).

Docket: For access to the docket to read background documents, or comments received, go to the Federal eRulemaking Portal at: <http://www.regulations.gov/docket?D=EERE-2018-BT-STD-0018>.

FOR FURTHER INFORMATION CONTACT: Ms. Sofie Miller, Senior Advisor, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, 1000 Independence Avenue, S.W., Washington, DC 20585. Telephone: (202) 586-5000. Email: Sofie.Miller@ee.doe.gov.

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I. Background

The Department sought public comments on the petition for rulemaking submitted on October 18, 2018, by the American Public Gas Association (APGA), Spire, Inc., the Natural Gas Supply Association (NGSA), the American Gas Association (AGA), and the National Propane Gas Association (NPGA), collectively referred to as the “Gas Industry Petitioners,” asking DOE to: (1) issue an interpretive rule stating that DOE’s proposed energy conservation standards for residential furnaces and commercial water heaters would result in the unavailability of “performance characteristics” within the meaning of the Energy Policy and Conservation Act of 1975¹ (EPCA; 42 U.S.C. 6291 *et seq.*), as amended (*i.e.*, by setting standards which can only be met by condensing combustion technology products/equipment and thereby precluding the distribution in commerce of non-condensing combustion technology products/equipment) and (2) withdraw the proposed energy conservation standards for residential furnaces² and commercial water heaters³ based upon such findings. DOE published the petition in the *Federal Register* on November 1, 2018 (83 FR 54883), which had a comment period scheduled to close on January 30, 2019. DOE received two requests from interested parties seeking an extension of the comment period in order to develop additional data relevant to the petition. DOE granted

¹ All references to EPCA in this document refer to the statute as amended through America’s Water Infrastructure Act of 2018, Public Law 115–270 (Oct. 23, 2018).

² Standards for non-weatherized residential furnaces were published in a notice of proposed rulemaking at 80 FR 13120 (March 12, 2015) (Docket No. EERE-2014-BT-STD-0031-0032) and in a supplemental notice of proposed rulemaking at 81 FR 65720 (Sept. 23, 2016) (Docket No. EERE-2014-BT-STD-0031-0230).

³ Standards for commercial water heating equipment were published in a notice of proposed rulemaking at 81 FR 34440 (May 31, 2016) (Docket No. EERE-2014-BT-STD-0042).

those requests through publication in the *Federal Register* of a document extending the comment period on the notice of petition for rulemaking until March 1, 2019. 84 FR 449 (Jan. 29, 2019).

The 90-day public comment period, including the 30-day extension to submit comments, invited public input in order to better understand stakeholder perspectives and increase transparency around a complex issue involving DOE's legal authority. DOE received comments from a variety of stakeholders, including representatives from gas industry associations, the manufactured housing industry, efficiency advocates, consumer advocates, State organizations and Attorneys General, and individuals (mostly form letter comments). In general, the gas industry associations and the manufactured housing industry supported the petition, and the advocates and State officials opposed it. Specifically, DOE received comment on the notice of petition from:

- Air-Conditioning, Heating & Refrigeration Institute (AHRI);
- A.O. Smith Corporation (A.O. Smith);
- Appliance Standards Awareness Project (ASAP)/American Council for an Energy-Efficient Economy (ACEEE)/Alliance to Save Energy (ASE)/Consumer Federation of America (CFA)/National Consumer Law Center (NCLC) (ASAP *et al.* Joint Comment);
- California Energy Commission (CEC);
- Center for Efficient Living (CEL);
- EarthJustice/National Resources Defense Council (EarthJustice/NRCD Joint Comment);
- Emissol LLC;
- Indiana Manufactured Housing Association/Recreation Vehicle Indiana Council (IMHA/RVIC Joint Comment);
- Manufactured Housing Industry of Arizona (MHIA);
- Manufactured Housing Institute (MHI);
- Manufactured & Modular Home Association of Minnesota (MMHAM);
- Mississippi Manufactured Housing Association (MMHA);
- Mitsubishi Electric US (Mitsubishi);
- Mortex Products, Inc. (Mortex);
- National Consumer Law Center/Consumer Federation of America (NCLC/CFA Joint Comment);
- National Electrical Manufacturers Association (NEMA);

- National Multifamily Housing Council/National Apartment Association/National Leased Housing Association (NMHC/NAA/NLHA Joint Comment);
- Natural Resources Defense Council (NRDC);
- New Mexico Manufactured Housing Association (NMMHA);
- Nortek Global HVAC (Nortek);
- Northeast Energy Efficiency Partnerships (NEEP);
- Northwest Energy Efficiency Alliance (NEEA);
- Northwest Energy Efficiency Alliance/Northeast Energy Efficiency Partnership/Pacific Gas and Electric/National Grid (NEEA/NEEP/PG&E/National Grid Joint Comment);
- Oliver Technologies, Inc.;
- Pacific Gas and Electric Company (PG&E)/San Diego Gas and Electric (SDG&E)/Southern California Edison (SCE) (CA IOUs Joint Comment);
- Plumbing-Heating-Cooling Contractors Association (PHCC);
- Rheem Manufacturing Company (Rheem);
- Southern Company;
- Spire Inc. /American Public Gas Association (APGA)/American Gas Association (AGA)/National Propane Gas Association (NPGA)/Natural Gas Supply Association (NGSA) (Gas Industry Petitioners Joint Comment);
- State Attorneys General (of NY, DC, IL, ME, MA, MN, NJ, OR, VT, and WA) and Corporation Counsel of New York City (Multi-State AGs Joint Comment);
- Suburban Propane;
- Triple-T;
- VEIC;
- Weil-McLain;
- Wisconsin Housing Alliance (WHA), and
- 22 individuals.

The comments were carefully and fully considered by DOE. DOE is issuing this notice of proposed interpretive rule to provide the public additional information about DOE's interpretation of EPCA's "features" provision⁴ in the context of condensing vs. non-condensing furnaces and water heaters, as informed by public comments. The following sections of this document set forth the relevant legal authority, describe the Department's historical interpretation of EPCA's "features" provision as applied to condensing vs. non-condensing products/equipment, provide summary responses to significant and recurring comments received

⁴ See 42 U.S.C. 6295(o)(4); 42 U.S.C. 6313(a)(6)(B)(iii)(II)(aa); 6316(a).

through the public comment process, and propose an interpretation of the relevant statutory provision.

This proposed interpretive rule does not change or revise any current policies or legal requirements with respect to residential furnaces and commercial water heaters. Decisions about whether and how this interpretation will apply to existing products/equipment utilizing condensing/non-condensing technology will be the subject of subsequent actions.

II. Summary Description

A. Relevant Statutory Provisions

In this document, DOE explains its historical interpretation regarding the evaluation of what constitutes a product “feature” which cannot be eliminated under EPCA, specifically in the context of residential furnaces and commercial water heaters. For covered consumer products, the key statutory provision at issue can be found at 42 U.S.C. 6295(o)(4), which provides that the Secretary may not prescribe an amended or new standard under this section if the Secretary finds (and publishes such finding) that interested persons have established by a preponderance of the evidence that the standard is likely to result in the unavailability in the United States in any covered product type (or class) of performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as those generally available in the United States at the time of the Secretary’s finding.

Where the Secretary finds such “performance characteristics (including reliability), features, sizes, capacities, and volumes” (collectively referred to hereafter as “features”) to exist,

the statute provides a potential remedy at 42 U.S.C. 6295(q)(1), which provides that a rule prescribing an energy conservation standard for a type (or class) of covered products shall specify a level of energy use or efficiency higher or lower than that which applies (or would apply) for such type (or class) for any group of covered products which have the same function or intended use, if the Secretary determines that covered products within such group – (A) consume a different kind of energy from that consumed by other covered products within such group (or class); or (B) have a capacity or other performance-related feature which other products within such type (or class) do not have and such feature justifies a higher or lower standard from that which applies (or will apply) to other products within such type (or class). In making a determination under 42 U.S.C. 6295(q)(1) concerning whether a performance-related feature justifies the establishment of a higher or lower standard, the Secretary shall consider such factors as the utility to the consumer of such a feature, and such other factors as the Secretary deems appropriate.

These provisions also apply to covered non-ASHRAE commercial and industrial equipment through the provision at 42 U.S.C. 6316(a). (Under the statute, “ASHRAE equipment” refers to small commercial package air conditioning and heating equipment, large commercial package air conditioning and heating equipment, very large commercial package air conditioning and heating equipment, packaged terminal air conditioners, packaged terminal heat pumps, warm-air furnaces, packaged boilers, storage water heaters, instantaneous water heaters, or unfired hot water storage tanks, which are addressed by the ASHRAE in Standard 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings*.)

ASHRAE equipment has its own separate statutory scheme under EPCA, with the default situation being that DOE must adopt the level set forth in ASHRAE Standard 90.1 unless the Department has clear and convincing evidence to adopt a more-stringent standard (*see* 42 U.S.C. 6313(a)(6)). Under 42 U.S.C. 6313(a)(6)(B)(iii)(II)(aa), there is a similar “features” provision which provides that the Secretary may not prescribe an amended standard under the subparagraph if the Secretary finds (and publishes the finding) that interested persons have established by a preponderance of the evidence that a standard is likely to result in the unavailability in the United States in any product type (or class) of performance characteristics (including reliability, features, sizes, capacities, and volumes) that are substantially the same as those generally available in the United States at the time of the finding of the Secretary. However, it is noted that this provision contains the specific limitation that it applies to an amended standard prescribed *under this subparagraph* (*i.e.*, when DOE is acting under its authority to set a more-stringent standard). There is no companion “features” provision under 42 U.S.C. 6313(a)(6)(A), which is the provision that would apply when DOE is adopting the levels set by ASHRAE. Congress was clearly aware of the features issue, and it chose to act in the context of DOE standard setting, but not ASHRAE standard setting. There is likewise no companion provision to 42 U.S.C. 6295(q)(1) for ASHRAE equipment.

B. DOE's Historical Interpretation

With this statutory background in mind, in the March 12, 2015, notice of proposed rulemaking (NOPR) for energy conservation standards for residential furnaces, DOE set forth in detail its rationale for why it did not considering the venting of non-condensing furnaces to constitute a product “feature” under 42 U.S.C. 6295(o)(4). 80 FR 13120, 13137-13138.

As discussed previously, when evaluating and establishing energy conservation standards, the statute requires DOE to divide covered products into product classes by the type of energy used, by capacity, or by other performance-related features that justify a different standard. In making a determination whether a performance-related feature justifies a different standard, DOE must consider factors such as the utility to the consumer of the feature and other factors DOE determines are appropriate. (42 U.S.C. 6295(q)) Historically, DOE has viewed utility as an aspect of the product that is accessible to the layperson and is based on user operation, rather than performing a theoretical function. This interpretation has been implemented consistently in DOE's previous rulemakings by determining utility through the value the item brings to the consumer, rather than through analyzing more complicated design features, or costs that anyone, including the consumer, manufacturer, installer, or utility companies may bear. DOE reasoned that this approach is consistent with EPCA requiring a separate and extensive analysis of economic justification for the adoption of any new or amended energy conservation standard (see 42 U.S.C. 6295(o)(2)(A)–(B) and (3)).

Under EPCA, DOE has typically addressed consumer utility by establishing separate product classes or otherwise taken action when a consumer may value a product feature based on the consumer's everyday needs. For instance, DOE has determined that it would be impermissible under 42 U.S.C. 6295(o)(4) to include elimination of oven door windows as a technology option to improve the energy efficiency of cooking products.⁵ DOE reached this conclusion based upon how consumers typically use the product: Peering through the oven

⁵ 63 FR 48038, 48041 (Sept. 8, 1998).

window to judge if an item is finished cooking, as opposed to checking the timer and/or indicator light or simply opening the oven door to see if the item is finished cooking. DOE has also determined that consumers may value other qualities such as ability to self-clean,⁶ size,⁷ and configuration.⁸ This determination, however, can change depending on the technology and the consumer, and it is conceivable that certain products may disappear from the market entirely due to shifting consumer demand. DOE stated that it has determined such value on a case-by-case basis through its own research, as well as public comments received.

DOE offered a cautionary note that disparate products may have very different consumer utilities, thereby making direct comparisons difficult and potentially misleading. For instance, in a 2011 rulemaking, DOE created separate product classes for vented and ventless residential clothes dryers based on DOE's recognition of the "unique utility" that ventless clothes dryers offer to consumers. 76 FR 22454, 22485 (April 21, 2011). This utility could be characterized as the ability to have a clothes dryer in a living area where vents are impossible to install (*i.e.*, an apartment in a high-rise building). As explained in that April 2011 direct final rule technical support document, ventless dryers can be installed in locations where venting dryers would be precluded due to venting restrictions.

But in another rulemaking, DOE found that water heaters that utilize heat pump technology did not need to be put in a separate product class from conventional types of hot

⁶ 73 FR 62034, 62048 (Oct. 17, 2008) (separating standard ovens and self-cleaning ovens into different product classes).

⁷ 77 FR 32307, 32319 (May 31, 2012) (creating a separate product class for compact front-loading residential clothes washers).

⁸ 75 FR 59469, 59487 (Sept. 27, 2010) (creating a separate product class for refrigerators with bottom-mounted freezers).

water heaters that utilize electric resistance technology, even though water heaters utilizing heat pumps require the additional installation of a condensate drain that a hot water heater utilizing electric resistance technology does not require. 74 FR 65852, 65871 (Dec. 11, 2009). DOE found that regardless of these installation factors, the heat pump water heater and the conventional water heater still had the same utility to the consumer: Providing hot water. *Id.* In both cases, DOE made its finding based on consumer type and utility type, rather than product design criteria that impact product efficiency. These distinctions in both the consumer type and the utility type are important because, taken to the extreme, each design differential could be designated a different “product class” and, therefore, require different energy conservation standards.

DOE expressed concern that tying the concept of “feature” to a specific technology would effectively lock-in the currently existing technology as the ceiling for product efficiency and eliminate DOE’s ability to address technological advances that could yield significant consumer benefits in the form of lower energy costs while providing the same functionality for the consumer. DOE stated that it was very concerned that determining features solely on product technology could undermine the Department’s Appliance Standards Program. DOE reasoned that if it is required to maintain separate product classes to preserve less-efficient technologies, future advancements in the energy efficiency of covered products would become largely voluntary, an outcome which seems inimical to Congress’s purposes and goals in enacting EPCA.

Turning to the product at issue in that rulemaking, DOE noted that residential furnaces are currently divided into several product classes. For example, furnaces are separated into product classes based on their fuel source (gas, oil, or electricity), which is required by statute. For that rulemaking, DOE analyzed only two product classes for residential furnaces: (1) Non-weatherized gas-fired furnaces (NWGFs) and (2) mobile home gas-fired furnaces (MHGFs). DOE did not additionally separate NWGFs and MHGFs into condensing and noncondensing product classes.

In that rulemaking, DOE tentatively concluded that the methods by which a furnace is vented did not provide any separate performance-related impacts, and, therefore, DOE had no statutory basis for defining a separate class based on venting and drainage characteristics. DOE reasoned that NWGF and MHGF venting methods did not provide unique utility to consumers beyond the basic function of providing heat, which all furnaces perform. The possibility that installing a non-condensing furnace may be less costly than a condensing furnace due to the difference in venting methods did not justify separating the two types of NWGFs into different product classes. Unlike the consumers of ventless dryers, which DOE had determined to be a performance-related feature based on the impossibility of venting in certain circumstances (*e.g.*, high-rise apartments), DOE reasoned that consumers of condensing NWGFs are homeowners that may either use their existing venting or have a feasible alternative to obtain heat. In other words, homeowners would still be able to obtain heat regardless of the venting. In contrast, DOE reasoned that a resident of a high-rise apartment or condominium building that is not architecturally designed to accommodate vented clothes dryers would have no option in terms of installing and enjoying the utility of a dryer in their home unless he or she used a ventless dryer.

As explained above, DOE's conclusion in the March 12, 2015 NOPR was that the utility of a furnace involves providing heat to a consumer. DOE reasoned that such utility is provided by any type of furnace, but to the extent that a consumer has a preference for a particular fuel type (e.g., gas), improvements in venting technology may eventually allow a consumer to obtain the efficiency of a condensing furnace using the existing venting in a residence by sharing venting space with water heaters. DOE postulated that this update in technology significantly would reduce the cost burden associated with installing condensing furnaces and reduce potential instances of "orphaned" water heaters, where the furnace and water heater can no longer share the same venting (due to one unit being condensing and the other noncondensing). In other words, when mature, this technology could allow consumers to switch from a non-condensing furnace to a condensing furnace in a greater variety of applications, such as urban row houses. For more information, interested parties were asked to consult appendix 8L of the NOPR TSD.

C. The Gas Industry Petition

As noted above, on October 18, 2018, DOE received a petition from the Gas Industry Petitioners asking DOE to: (1) issue an interpretive rule stating that DOE's proposed energy conservation standards for residential furnaces and commercial water heaters would result in the unavailability of "performance characteristics" within the meaning of the Energy Policy and Conservation Act of 1975, as amended (*i.e.*, by setting standards which can only be met by condensing combustion technology products/equipment) and (2) withdraw the proposed energy conservation standards for residential furnaces and commercial water heaters based upon such findings. In their petition, the Gas Industry Petitioners argue that DOE misinterpreted its

mandate under section 325(o)(4) of EPCA by failing to consider as a “feature” of the subject residential furnaces and commercial water heating equipment the compatibility of a product/equipment with conventional atmospheric venting systems and the ability to operate without generating liquid condensate requiring disposal via a plumbing connection.

Consequently, the Gas Industry Petitioners assert that DOE’s proposals would make unavailable non-condensing products/equipment with such features, which currently exist in the marketplace, in contravention of the statute. The petition makes a number of technical, legal, and economic arguments in favor of its suggested interpretation, and it points to DOE’s past precedent related to space constraints and differences in available electrical power supply (and associated installation costs) as supporting its call to find that non-condensing technology amounts to a performance-related “feature.” Based upon these arguments, the Gas Industry Petitioners conclude that DOE should issue an interpretive rule treating non-condensing technology as a “feature” under EPCA, withdraw its rulemaking proposals for both residential furnaces and commercial water heaters, and proceed on the basis of this revised interpretation.

III. Response to Comments

DOE received a number of comments on the Gas Industry Petition with commenters both supporting the petition for rulemaking and opposing the petition. Comments from gas industry associations, certain manufacturer associations, and certain individual manufacturers generally expressed support for the petition. Comments from efficiency advocacy organizations, consumer advocacy organizations, other manufacturers, and certain States and Attorneys General generally oppose it. The following sections of this proposed interpretive rule summarize the comments received on the Gas Industry Petition and provide DOE’s responses to those comments. DOE

then proposes an interpretation consistent with its statutory authority and that considers the comments received along with all other available information. To aid in organizing the comments, this section categorizes public comments on the Gas Industry Petition in terms of legal authority, technical matters, implementation, and other related issues.

A. *Legal Authority*

As DOE explained in section II.B of this document, for the purpose of EPCA, DOE has in prior instances considered product/equipment “features” in the context of the consumer’s interaction with the appliance in question. With the submission of the Gas Industry Petition, DOE is re-evaluating its prior interpretations in the context of the petition and providing stakeholders and the interested public an opportunity to submit comments and information to further inform DOE’s consideration, particularly in regards to its technical implications, as well as the needs of consumers (including those with low incomes).

DOE is issuing the interpretation as an interpretative rule within the meaning of the Administrative Procedure Act (APA). 5 U.S.C. 551(4), 553(b). DOE is publishing a proposed interpretation to solicit comment and to provide the public with a clear and transparent explanation of DOE’s view of a specific legal question: whether non-condensing technology and associated venting constitutes a performance-related “feature” under 42 U.S.C. 6295(o)(4)⁹, as would support a separate product/equipment class under 42 U.S.C. 6295(q)(1)¹⁰, including the authority that Congress conferred on DOE through those provisions.

⁹ 42 U.S.C. 6316(a) for non-ASHRAE equipment; 42 U.S.C. 6313(a)(6)(B)(iii)(II)(aa) for ASHRAE equipment where DOE is setting more-stringent standards.

¹⁰ 42 U.S.C. 6316(a) for non-ASHRAE equipment.

1. Legal Authority to Set Separate Product/Equipment Classes Based Upon Condensing and Non-condensing Technologies

The Gas Industry petition raises the issue of whether non-condensing technology, including the associated venting, constitutes a “performance characteristic” or “feature” under 42 U.S.C. 6295(o)(4), and if it is so, whether it justifies a separate product/equipment class under 42 U.S.C. 6295(q)(1). Commenters had divergent views regarding DOE’s legal authority to determine non-condensing technology used in furnaces and water heaters, including the associated venting, is a “performance characteristic” or “feature” within the meaning of the statute, and whether as a “performance characteristic” or “feature” it would justify a separate product/equipment class and standard. Such views are summarized in the immediately following paragraphs.

Comments from the gas industry, certain manufacturers, housing associations, and a number of individuals generally supported the interpretation of “performance characteristic” and “feature” put forth in the Gas Industry Petition (*i.e.*, non-condensing technology and the associated venting is a “performance characteristic” for the purpose of EPCA), arguing that DOE is statutorily prohibited from adopting standards that would effectively eliminate this performance characteristic. (Gas Industry Petitioners Joint Comment, No. 44 at pp. 1 and 3; Mortex, No. 58 at p. 1; Weil-McLain, No. 29 at p. 1; PHCC, No. 53 at p. 1; Southern Company, No. 33 at p. 1; Suburban Propane, No. 13 at p. 1; Nortek, No. 35 at pp. 1 and 2; NMHC/NAA/NLHA Joint Comment, No. 41 at p. 1; Baker, No. 4 at p.1; Matchneer, No. 21 at p.1) These commenters emphasized the point presented in the Gas Industry Petition that the

ability to use category I venting¹¹ and to operate without formation of condensate are performance characteristics and/or features that DOE cannot eliminate under EPCA.

Southern Company asserted that non-condensing furnaces and water heaters provide “unique utility” in terms of their ability to commonly vent with other gas appliances, vent into masonry chimneys, operate in unconditioned space without freeze protection, easily install in retrofit applications, and operate without the need to dispose of condensate. (Southern Company, No. 33 at p. 2) Nortek stated that an energy conservation standard that requires the use of condensing technology would eliminate the ability to combine the venting of other non-condensing appliances with the furnace or commercial water heater. (Nortek, No. 35 at p. 2) NMHC, NAAA, and NLHA stated that in the context of existing multifamily properties, installation of a condensing unit may require construction of an entirely new ventilation system within the apartment to meet the horizontal venting requirements of the condensing furnace unit, and in many properties, there is not sufficient clearance on the exterior wall of the property to locate a ventilation pipe due to existing windows and doors. (NMHC/NAA/NLHA Joint Comment, No. 41 at p. 2) Regarding commercial hot water heaters, Rheem stated that according to the Energy Information Agency (EIA) 2012 Commercial Buildings Energy Consumption Survey (CBECS) data, more than half of all commercial buildings were constructed before condensing commercial water heaters were introduced to the market and that in older buildings having greater than 3-stories with the water heater(s) located in the interior of the building structure, it is generally difficult, if not impossible, to replace non-condensing water heaters with condensing water heaters due primarily to the need to replace or reline existing vents/chimneys.

¹¹ Category I venting has a non-positive vent pressure and is suitable for non-condensing appliances.

(Rheem, No. 34 at p. 2) Southern Company further commented that non-condensing units can be installed in unconditioned space without the use of potentially dangerous heat tapes or other devices that prevent condensate from freezing. (Southern Company, No. 33 at p. 4)

Several of the commenters in support of the Gas Industry Petition asserted that there is precedent for establishing separate product classes for non-condensing furnaces and water heaters. (Gas Industry Petitioners Joint Comment, No. 44 at pp. 5-6; Mortex, No. 58 at p. 2; Southern Company, No. 33 at pp. 2-4; Nortek, No. 35 at p. 2; MHI, No. 54 at p. 2) The Gas Industry Petitioners stated that the issues facing the replacement of a non-condensing unit with a condensing unit are similar, but greater in magnitude, to installation issues for products that DOE has established separate “space-constrained” product classes. (Gas Industry Petitioners Joint Comment, No. 44 at pp. 4-5) Southern Company specifically referenced as applicable precedent the separate product classes established for gas-fired natural draft commercial packaged boilers, the standard-size equipment class for package terminal air conditioners and heat pumps, space-constrained central air conditioners and heat pumps, tabletop water heaters, and compact products such as clothes dryers. (Southern Company, No. 33 at pp. 3-4) Mortex and Southern Company pointed to the establishment of separate classes of furnace fans based on use in a condensing versus non-condensing furnace as support for establishing separate classes as requested in the Gas Industry Petition. (Mortex, No. 58 at p. 2; Southern Company, No. 33 at p. 3)

Various other commenters opposed the Gas Industry Petition and asserted that the method of venting, type of type of vent, and condensate disposal system associated with a

furnace or water heater does not qualify as a performance-related characteristic or feature under EPCA. (CA IOUs Joint Comment, No. 45 at pp. 1-2; EarthJustice/NRDC Joint Comment, No. 55 at p. 1; Mitsubishi, No. 10 at p. 1; Multi-State AGs Joint Comment, No. 49 at pp. 1-2, 6; NEMA, No. 46 at p. 4; NEEA, No. 59 at pp. 1-2; CEC, No. 56 at pp. 1-2; NCLC/CFA Joint Comment, No. 50 at pp. 1-2; ASAP *et al.* Joint Comment, No. 61 at p. 4) Referencing DOE's prior, tentative analysis of the issue under EPCA, commenters stated that condensing and non-condensing furnaces and water heaters provide identical performance characteristics in the form of warm air or hot water, respectively; that installation cost is not a performance characteristic for the purpose of 42 U.S.C. 6295(o)(4); and that non-condensing technology does not justify a separate product class. (CA IOUs Joint Comment, No. 45 at pp. 2-3; EarthJustice/NRDC Joint Comment, No. 55 at pp. 5 and 13; Multi-State AGs Joint Comment, No. 49 at p. 7; NEEA, No. 59 at p. 5; CEC, No. 56 at p. 2; CEL, No. 3 at p. 1; NCLC/CFA Joint Comment, No. 50 at p. 5; ASAP *et al.* Joint Comment, No. 61 at p. 4) NEMA stated that increased cost of installation is not a performance characteristic or feature under paragraphs 42 U.S.C. 6295(o)(4) and (q)(1). (NEMA, No. 46 at pp. 4, 11) NEMA further stated that while the type of venting may be a "characteristic" or "feature," it is not one that has utility to the consumer; the consumer suffers no loss of utility by no longer being able to use a "type B" metal vent with a condensing furnace. (NEMA, No. 46 at pp. 15-16) While NEMA agreed with the result of DOE's tentative determination, NEMA cautioned that DOE should not exclusively conflate an appliance's "basic function" with a useful feature, capacity, characteristic, size, or volume. (NEMA, No. 46 at p. 17)

EarthJustice and NRDC argued that Congress intended the provision at 42 U.S.C. 6295(o)(4) only to address the possibility that efficiency standards could completely destroy the market for a covered product. (EarthJustice/NRDC Joint Comment, No. 55 at p. 3)

Additionally, EarthJustice and NRDC asserted that the difference in language between 42 U.S.C. 6295(o)(4) and 42 U.S.C. 6313(a)(6)(iii)(II)(aa) indicates that “performance characteristic” means something different for residential products and commercial equipment. Specifically, this comment imparts significant meaning to Congress’s placement of a single parentheses within these two statutory provisions; on the residential side, 42 U.S.C. 6295(o)(4) describes “performance characteristics” as “(including reliability)” and then following with “features, sizes, capacities, and volumes,” but on the commercial side, 42 U.S.C. 6313(a)(6)(B)(iii)(II)(aa) describes “performance characteristics” as “(including reliability, features, sizes, capacities, and volumes).” (EarthJustice/NRDC Joint Comment, No. 55 at p. 4) EarthJustice and NRDC continued that the method of venting and condensate disposal are not performance features under either provision, but “installation features.” (EarthJustice/NRDC Joint Comment, No. 55 at p. 4)

A number of commenters stated that not every technology design option should be captured as a separate “performance characteristic” or “feature,” because such approach would preclude DOE from ever setting incrementally more stringent energy conservation standards. (CA IOUs Joint Comment, No. 45 at p. 3; NRDC, No. 60 at p. 4, 6-7; Multi-State AGs Joint Comment, No. 49 at p. 7; A.O. Smith, No. 51 at p. 3; CEC, No. 56 at p. 1) Commenters asserted that the appropriate precedent is DOE’s prior determination in the residential water heater rulemaking in which DOE determined that heat pump heaters provide hot water to a residence just as a traditional electric storage water heater does, and, therefore, a standard level that

effectively bans electric resistance heating does not violate 42 U.S.C. 6295(o)(4). (CA IOUs Joint Comment, No. 45 at p. 3; NEMA, No. 46 pp. 7-8)

In opposition to the petition, commenters further stated that to the extent that there are installation cost differences between the venting technologies, those costs should be addressed in DOE's economic analysis and are not relevant to the determination of product/equipment classes. (CA IOUs Joint Comment, No. 45 at pp. 3-4; EarthJustice/NRDC Joint Comment, No. 55 at p. 7; NRDC, No. 60 at p. 8; ASAP *et al.* Joint Comment, No. 61 at pp. 3-4) EarthJustice and NRDC did state that DOE appropriately established separate product classes for through-the-wall central air conditioners and heat pumps to avoid requiring changes in the physical size of the through-the-wall systems and modifications to the buildings in which they are installed. (EarthJustice/NRDC Joint Comment, No. 55 at p. 10-11)

A number of commenters stated that with rare exceptions, condensing furnaces and water heaters are no more difficult to install than non-condensing units, and they added that in the small number of situations where there are difficulties, there are work-arounds. (Mitsubishi, No. 10 at pp.1-2, 6; Multi-State AGs Joint Comment, No. 49 at p. 8; NEEP, No. 48 at p. 1; NEEA, No. 59 at pp. 1-2; CEC, No. 56 at p. 3; A.O. Smith, No. 51 at p. 4; Triple-T, No. 63 at p. 1) NEEA and the State Attorneys General provided the summary of a survey of residential furnace installers, based on which they stated that the percentage of homes with the conditions necessary to present significant issues is likely to be less than 5 percent of the retrofit installations. (NEEA, No. 59 at p. 2; Multi-State AGs Joint Comment, No. 49 at p. 8) The State Attorneys General added that those interviewed for the survey stated that even in "difficult" cases,

technical solutions are possible. (Multi-State AGs Joint Comment, No. 49 at p. 8) Mitsubishi stated that cases where installation of condensing equipment is more difficult than replacing with non-condensing equipment are rare, and it estimated that such conditions exist in less than 1 percent of the total housing stock. (Mitsubishi, No. 10 at p. 4) The CEC identified a commercially-available product (*i.e.*, FasNSeal 80/90 by DuraVent) that allows for combined venting of an atmospheric appliance and a condensing appliance, thereby mitigating the issue of “orphaned” water heaters. (CEC, No. 56 at p. 3)

In response, DOE recognizes the importance of its interpretation of “performance characteristic” and “feature” in the context of condensing vs. non-condensing furnaces, water heaters, and similarly situated products/equipment. The submission of comments and other information pursuant to the Gas Industry Petition has heightened DOE’s awareness of the real world impacts facing consumers of such products/equipment. In the past, DOE viewed venting of condensing vs. non-condensing as a technological and economic issue incidental to the appliance’s purpose of providing heat or hot water to a dwelling or business. DOE has now come to see that it may have been too narrow in its focus. Commenters have made persuasive arguments that a consumer’s interaction with and perception of a furnace or water heater may go beyond its primary function.

For example, adoption of an energy conservation standard requiring the use of condensing technology could potentially impact a home’s aesthetics, if a new installation or retrofit were to entail additional venting in the conditioned space. Consumers would likely notice the new venting, and it might deprive them of some enjoyment related to the appearance

of their home. In other cases, the condensing furnace may be of a different size or shape, and it may require modifications to existing utility closets or similarly constrained spaces, again potentially impacting the aesthetics of a room's layout. To that extent, non-condensing appliances may be similar to the space-constrained appliances which EarthJustice and NRDC point to in their comments as an appropriate use of EPCA's features provision. (DOE requests comments regarding any size-related impacts of the use of condensing technology, such as that related to the need for more heat exchanger surface area.)

Although DOE continues to believe that the distinction between condensing and non-condensing appliances is largely a matter of economics for most consumers, for some subset of the population, it is something much more than that. As commenters representing the manufactured housing industry and individual owners of such units made clear, energy conservation standards at condensing levels could price some low-income consumers out of the housing market entirely. Below that level, other low-income consumers could face a financial hardship once they are forced to purchase a condensing furnace, which on average for mobile home gas furnaces costs between \$152 and \$331 (total installed cost; 2015\$) more than a non-condensing furnace.¹² (Consistently, DOE's data support the finding in the fuel switching analysis of the September 23, 2016 supplemental notice of proposed rulemaking (September 2016 SNO PR) that accounted for instances where installation of a condensing furnace was either too difficult or costly, with the result being substitution of another type of heating product. 81 FR 65720, 65791-65793 (Sept. 23, 2016) (*see also* Chapter 8J of the SNO PR technical support document (TSD)). For such consumers, there could be difficult choices to be made between heat

¹² See chapter 8 of the September 2016 SNO PR TSD for Residential Furnaces (Available at: <https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0217>).

and other necessities such as food or medical care. The potential for overall energy savings after a long payback period does little to ameliorate such short-term impacts. In light of these reasons, DOE has tentatively concluded that the totality of such concerns may raise non-condensing appliances (and their associated venting) sufficiently in the consciousness of the consumer as to be deemed a “feature” under EPCA. DOE does not believe that its proposed interpretation would have a cascading effect that would prevent it from ever setting a standard that would eliminate a less-efficient technology; instead, DOE would continue to determine “features” based upon consumer utility on a case-by-case basis.

2. *Legal Authority to Set a “Small” Furnaces Product Class for Mobile Home Furnaces*

Manufactured housing associations, certain manufacturers to the manufactured housing industry, and a number of individuals faulted DOE’s 2016 furnaces SNOPR (81 FR 65720 (Sept. 23, 2016)) for its failure to consider a “small” mobile home furnaces product class. Due to the cost impacts to manufactured housing consumers and these consumers’ sensitivity to price increases, these commenters argued that DOE should have considered a “small” product class for mobile home furnaces. According to these commenters, manufactured housing is disproportionately impacted due to the comparatively high number of manufactured homes that rely on non-condensing gas furnaces as compared to site-built homes, as well as the disproportionate number of homes in the south where the payback of a high-efficiency furnace is less. (MHI, No. 54 at pp. 1, 3-4; MMHAM, No. 43 at p. 2; MMHA, No. 42 at p. 2; IMHA-RVIC, No. 32 at p. 2; NMMHA, No. 28 at pp. 1-2; WHA, No. 24 at pp. 1-2; MHIA, No. 23 at p.

2; Oliver Technologies, No. 16 at p. 1; Mortex, No. 58 at p. 2; Individuals, Nos. 17-22, 25-27, 30-31, 36-40, 47, 57 at pp. 1-2)

In the September 2016 furnaces SNOPR, DOE explained its rationale for proposing that energy conservation standards for mobile home gas furnaces should be set at 92 percent annual fuel utilization efficiency (AFUE). 81 FR 65720, 65743-65744 (Sept. 23, 2016). First, DOE stated that under the proposed standard, 63 percent of mobile home gas furnaces (MHGFs) would see a net benefit from such standards, whereas only 8 percent would experience a net cost. DOE anticipated minimal fuel switching, because for new mobile homes, the type of heating equipment tends to be determined by the intended location of the home, the expected heating load, and the availability of a gas supply. For replacement applications, DOE found that switching away from gas is not likely because the cost increase for installing a condensing furnace relative to a non-condensing furnace is not a significant factor due to a much simpler venting system compared to installation of a non-weatherized gas furnace (NWGF). *Id.* at 81 FR 65743. As to the costs, DOE's analyses determined that the expected average cost of a condensing furnace in a new mobile home is comparable to a non-condensing furnace, because the increase in the price of the product is offset by a lower installation cost for a condensing furnace for most installations.¹³ The SNOPR noted that new furnaces installed in mobile homes must be approved by the U.S. Department of Housing and Urban Development, which requires special sealed combustion (direct vent) for all non-condensing and condensing installations of

¹³ In the SNOPR, DOE stated that the standard for MHGF furnace fans requires technology (improved PSC motor) that entails a slight price increase (\$11) in 2013\$ compared to the baseline PSC motor (see furnace fan energy conservation standards final rule; available at: <https://www.regulations.gov/#/documentDetail;D=EERE-2010-BT-STD-0011-0117>). This cost is applicable to less than 50 percent of installations because the rest of the market is already comprised of MHGFs with improved PSC motors or motors with higher efficiencies.

manufactured home furnaces. (24 CFR 3280.709(d)(1)) For condensing installations, the polyvinyl chloride (PVC) piping is usually less expensive than the metal vent system used for non-condensing furnaces. Thus, DOE reasoned that there is not likely to be any effect on the affordability of single-section mobile homes due to the SNO PR's proposed MHGF standard. *Id.* at 81 FR 65744.

Nevertheless, to the extent DOE moves to consider non-condensing furnaces and water heaters (and associated ductwork) to be a "feature" under EPCA, these commenters' concerns should be resolved, because mobile home purchasers would retain the choice of purchasing a furnace using non-condensing or condensing technology.

B. Fuel Switching

A number of commenters expressed concern that a national condensing furnaces standard would drive fuel switching and/or extend the use of less efficient appliances, because consumers who cannot afford more-expensive condensing technology will choose to switch to a non-gas heating option, repair their existing gas furnace, or use other less-efficient means of heating such as space heaters. (Gas Industry Petitioners Joint Comment, No. 44 at p. 3; MHI, No. 54 at p. 5; PHCC, No. 53 at p. 2; NMHC/NAA/NLHA Joint Comment, No. 41 at p. 2)

In contrast, the CEC argued that fuel switching is a cost impact, not a utility impact, as it does not disrupt service to the consumer of warm air or hot water. (CEC, No. 56 at p. 3) The CEC also stated that the costs related to fuel switching were included in DOE's life-cycle cost analysis in the September 2016 SNO PR for residential furnaces. (CEC, No. 56 at p. 3)

EarthJustice and NRDC stated that fuel switching is not an obstacle to amended standards under EPCA. These commenters noted that for small gas furnaces, EPCA required that DOE prescribe energy conservation standards at a level “which the Secretary determines is not likely to result in a significant shift from gas heating to electric resistance heating with respect to either residential construction or furnace replacement,” and asserted that Congress could have easily extended this requirement to other gas products but did not. EarthJustice and NRDC stated that, therefore, Congress did not intend to prevent the adoption of standards that may lead consumers to change their space or water heating energy sources. These commenters further argued that Congress’s instruction to avoid fuel-switching in the initial small furnaces rulemaking would be superfluous if other parts of the statute were already intended to prohibit fuel switching. (EarthJustice/NRDC Joint Comment, No. 55 at pp. 8-9)

As the commenters noted, DOE addressed the potential for fuel switching in the September 2016 SNO PR. 81 FR 65720, 65723, and Chapter 8 of the September 2016 SNO PR Technical Support Document (TSD).¹⁴ DOE agrees with the CEC, EarthJustice, and NRDC that concerns about fuel switching alone or in isolation would probably not justify a determination that non-condensing appliances (and associated venting) constitute a “feature” deserving a separate product/equipment class under EPCA. However, for the reasons previously stated, DOE has tentatively concluded that the choice of purchasing a non-condensing appliance is something that matters to some significant portion of consumers (especially persons with low-incomes), with concerns ranging from impacts on the aesthetics of the home to overall choice of

¹⁴ The September 2016 SNO PR TSD is available at <https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0217>.

housing options. To the extent DOE determines non-condensing technology (and associated venting) to be a feature, any fuel switching among such appliances going forward will be voluntary on the part of the consumer and not driven by government regulation.

C. Analytical Issues

Some commenters raised concerns with the analytical methodology underlying DOE's rulemakings for residential furnaces and commercial water heaters. (Gas Industry Petitioners Joint Comment, No. 44 at pp. 12-13; ; Rheem, No. 34 at pp. 2-3; NMHC/NAA/NLHA Joint Comment, No. 41 at p. 2; Weil McLain, No. 29 at p. 1) Among the issues raised by these commenters were that the national average approach to economic justification fails to consider the excessive localized costs that are certain to be incurred if non-condensing performance characteristics are eliminated. (Weil McLain, No. 29 at pp. 1-2)

DOE has attempted in prior residential furnaces and commercial water heaters rulemakings to capture localized effects (*e.g.*, regional climate, local utility rates, building type, local contractor labor rates, high-cost installations) in the life-cycle cost (LCC) analyses. DOE presented the average LCC results in summary form in the September 23, 2016 SNO PR. 81 FR 65720, 65814-65816. In chapter 8 of the September 23, 2016 furnaces SNO PR TSD, DOE presented the results in charts showing the mean and median LCC savings, along with the 5th, 25th, 75th, and 95th percentiles, to demonstrate the impacts of more extreme cases (both positive and negative). The same type of analysis was conducted for commercial water heaters in the May 31, 2016 NOPR. 81 FR 34440, 34482-34488.

Commenters also asserted that there is a fundamental flaw in DOE's modeling approach in that the base-case distribution of efficiencies is assigned randomly, rather than accounting for some consumers making economically rational decisions. (Gas Industry Petitioners Joint Comment, No. 44 at pp. 11-12) In response, DOE would point out that the base-case efficiency distributions for residential furnaces and commercial water heaters are not entirely random. For furnaces, assignment of efficiency in the base-case was based on both the region and specific building in which it is installed, with the market shares of furnace efficiencies first assigned by region based on historical shipments data and then allocated to specific buildings within each region based on the existing furnace being replaced. For commercial water heaters, the no-new-standards case and the selections in the LCC model were also not completely random, and rather were based on distributions of models in DOE's database, which included all commercially-available equipment on the market at the time and which (due to the absence of shipments data) represented the best data available to DOE at the time.

Furthermore, Rheem suggested that the EIA 2003 CBECS data used in DOE's commercial water heaters proposal is outdated, and DOE should recalculate results using more up-to-date data and re-evaluate its proposed standards accordingly. (Rheem, No. 34 at p. 2) In response, DOE notes that CBECS 2003 was the most recent version available at the time the analysis was conducted for the notice of proposed rulemaking for commercial water heating equipment. In any potential future rulemaking documents for commercial water heating equipment, DOE would update its analysis to utilize the most recent version of CBECS (currently the 2012 version).

The National Multifamily Housing Council (NMHC), the National Apartment Association (NAA), and the National Leased Housing Association (NLHA) commented that DOE did not include an adequate analysis of the venting and condensate disposal system installation costs for multi-story, multi-family properties in its proposals. (NMHC/NAA/NLHA Joint Comment, No. 41 at p. 2) In response, DOE notes that requirements specific to multi-story, multi-family properties were considered in the LCC analyses for residential furnaces and commercial water heating equipment. DOE acknowledged that multi-family buildings may require additional measures to replace non-condensing furnaces with condensing furnaces, noted that it did not find data that would allow a reliable estimation of the associated costs, and, therefore, requested comment on the issue. 81 FR 65720, 65778. DOE estimated in the September 23, 2016 SNOPR that more than 60 percent of replacement multi-family NWGF installations would not be impacted by the proposed standard. 81 FR 65720, 65780. For commercial water heaters, in the May 2016 NOPR, DOE included RECS data for multi-family buildings in the building sample used for its analysis, in order to account for the unique venting requirements of multi-family buildings, such as the vent length. 81 FR 34440, 34482 (May 31, 2016).¹⁵

Rheem stated that efficiency standards for commercial water heaters that require condensing technology could lead to fuel switching or multiple residential water heaters as alternatives, and suggested that DOE should consider such costs as part of the life-cycle cost analysis for commercial water heaters. (Rheem, No. 34 at p. 3) As discussed in the May 2016 NOPR, DOE considered whether to model fuel switching in the analysis for commercial water

¹⁵ See chapter 8 and Appendix 8-D of the Commercial Water Heating Equipment NOPR TSD for further discussion. Available at: <https://www.regulations.gov/document?D=EERE-2014-BT-STD-0042-0016>.

heating equipment and tentatively determined that fuel switching would be unlikely to occur. 81 FR 34440, 34494 (May 31, 2016).

Finally, Southern Company argued that DOE's analysis for residential furnaces grossly overestimates the capabilities of DuraVent FNS 80/90 as a technological solution, because it does not allow a condensing appliance to operate with the same utility as a non-condensing model due to restrictions on the circumstances in which it can be used. (Southern Company, No. 33 at pp. 6-8)

DOE clarifies that it considered use of the DuraVent FasNSeal (FNS) 80/90 only as a sensitivity analysis; DOE's main analysis does not assume that the DuraVent FNS 80/90 would be used in any installations. Because of the uncertainty regarding applicability of FNS 80/90 and other new venting technologies, and lack of available field data on such venting installations, DOE has consistently maintained its approach of only using this option in a sensitivity analysis rather than its main analysis. In this sensitivity analysis, DOE only applied the FNS80/90 option to installations that could meet the FNS 80/90 installation requirements. While the previously noted comment from the CEC identified the FNS 80/90 (CEC, No. 56 at p. 3) as a means to address orphaned water heaters, the technology is only commercially available for applications with metal vents, and as pointed out by Southern, can only be used in certain situations where the vent can be installed at the appropriate angle to drain condensate. To address stakeholders' concerns regarding overestimating the number of installations that could use new venting technologies, DOE plans to include an additional sensitivity analysis in any potential future

rulemaking documents for furnaces, where the FNS 80/90 option is applied to installations that can currently meet the FNS 80/90 installation requirements.

Finally, DOE notes that in its February 2019 NOPR regarding proposed changes to its Process Rule, the Department has announced its plans to conduct a peer review of its suite of rulemaking analyses as a second phase to the revisions of its Process Rule. 84 FR 3910, 3936-3938 (Feb. 13, 2019). Thus, DOE anticipates an ongoing discussion about potential refinements to its analytical methodologies and modeling, including those issues raised by commenters on the Gas Industry Petition.

D. Consumer Impacts

A number of efficiency and consumer advocacy organizations and the State Attorneys General argued that granting the requests in the Gas Industry Petition would negatively impact consumers due to lost energy and cost savings. (NEEP, No. 48 at p. 1; NEEA, No. 59 at p. 3; NCLC/CFA, No. 50 at pp. 2-3; Multi-State AGs Joint Comment, No. 49 at pp. 9-10; ASAP *et al.* Joint Comment, No. 61 at pp. 1-3) The State Attorneys General also asserted that such action would disrupt State and local energy and climate goals. (Multi-State AGs Joint Comment, No. 49 at pp. 9-10) The Center for Efficient Living argued that the Gas Industry Petitioners do not represent the parties most directly impacted by the regulations at issue, as compared to consumers and manufacturers, but instead, DOE must recognize the significant advances in heating, ventilation, and air-conditioning technology in the past 10 years and not take actions which counteract the associated public health, indoor air quality (IAQ), and environmental benefits. (CEL, No. 3 at p.1)

In contrast, individual commenters who support manufactured housing stated that Federal regulation should encourage manufactured housing as an affordable ownership option, but DOE's proposal inhibits that by increasing new home or retrofit costs, thereby potentially pricing consumers out of the manufactured housing market. These commenters stated that the median household income of manufactured homeowners is \$30,000, which makes them very sensitive to any change in first cost of a new home or retrofit costs (*e.g.*, reworking existing utility closets due to larger units). It was also noted that there is no exemption or other accommodation for "small" furnaces, which are often used in manufactured homes. (Matchneer *et al.* (Form Comments), Nos. 17-22, 25-27, 30-31, 36-40, 47, 57 at p. 1)

As discussed, in establishing and amending energy conservation standards, EPCA prescribes a number of factors that DOE must consider. These factors include the savings in operating costs throughout the estimated average life of the covered product compared to any increase in the price of, or in the initial charges for, or maintenance expenses of, the covered products which are likely to result from a standard. (42 U.S.C. 6295(o)(2)(B)(i)(II)) DOE historically has accounted for and considered the potential energy savings to consumers through the LCC and PBP analyses in all of its rulemakings. In contrast, however, EPCA's "features" provision demonstrates that Congress intended certain aspects of products with consumer utility to be preserved despite the energy savings or other benefits that might result from their elimination. (42 U.S.C. 6295(o)(4); 42 U.S.C. 6313(a)(6)(B)(iii)(II)(aa); 42 U.S.C. 6316(a)) DOE recognizes the important policy concerns raised by these commenters, but the Department is constrained to act within its statutory authority. Thus, to the extent DOE interprets EPCA's

“features” provision as supporting separate products/equipment classes for condensing and non-condensing appliances, the concerns of commenters regarding the affordability of manufactured housing are largely resolved. For other consumers, DOE will account for them as part of the standard-setting process and develop energy conservation standards that meet the seven criteria for economic justification, are technologically feasible, and produce significant energy savings, as required by EPCA. DOE would note that for consumers who rent (including low-income consumers), energy savings from mandatory energy conservation standards set at condensing levels are likely to be offset, at least in part, by higher rents to cover the landlord/owner’s first cost of the more expensive appliance.

E. Other Issues

Comments from the State Attorneys General and certain efficiency advocacy organizations commented that other nations such as Canada and the United Kingdom have successfully adopted and implemented regulations requiring condensing technology. (CEC, No. 56 at p. 3; Multi-State AGs Joint Comment, No. 49 at p. 8; ASAP *et al.* Joint Comment, No. 61 at p. 4) In response, DOE acknowledges both the energy savings potential of condensing appliances and the adoption of related regulatory requirements by other nations such as Canada and the U.K. However, DOE must act in accordance with domestic law (*i.e.*, EPCA) in formulating energy conservation standards, complying with all relevant requirements, including the features provision.

Additionally, the State Attorneys General argued that granting the Gas Industry Petition would impermissibly further delay DOE’s publication of final rule for the products/equipment in

question, rules which EPCA requires DOE to publish within two years after a proposal. The commenters pointed out that DOE's statutory deadlines for promulgating final furnace and water heater standards expired in March 2017 and May 2018, respectively. (Multi-State AGs Joint Comment, No. 49 at pp. 4-6) In response, DOE remains cognizant of its legal deadlines and plans to act expeditiously to comply with its mandates pursuant to EPCA. At the same time, the Gas Industry Petitioners have the right to petition for rulemaking under the Administrative Procedure Act, which provides that "[e]ach agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule." 5 U.S.C. 553(e). DOE is not at liberty to pick and choose among its legal obligations, but instead it must comply with all applicable legal requirements. In this case, DOE must evaluate and respond to the Gas Industry Petition and then implement any revised interpretation in the context of its ongoing rulemaking obligations.

IV. DOE's Proposed Revised Interpretation

In consideration of public comments and other information received on the Gas Industry Petition, DOE proposes to revise its interpretation of EPCA's "features" provision in the context of condensing and non-condensing technology used in furnaces, water heating equipment, and similarly-situated appliances (where permitted by EPCA). Based on those comments, DOE prospectively interprets the statute to provide that adoption of energy conservation standards that would limit the market to natural gas and/or propane gas furnaces, water heaters, or similarly situated products/equipment (where permitted by EPCA) that use condensing combustion technology would result in the unavailability of a performance related feature within the meaning of 42 U.S.C. 6295(o)(4) and 42 U.S.C. 6313(a)(6)(B)(iii)(II)(aa) and 42 U.S.C. 6316(a).

The statute accords the Secretary of Energy considerable discretion in terms of determining whether a performance characteristic of a covered product/equipment amounts to a performance-related feature which cannot be eliminated through adoption of an energy conservation standard. DOE has taken the opportunity presented by the Gas Industry Petition to reconsider its historical interpretation of EPCA's "features" provision in the context of condensing and non-condensing technologies used by certain gas appliances. Contrary to the petitioners' assessment, DOE found this to be a close case, with persuasive arguments on both sides of the issue. However, a number of factors have convinced DOE to revise its interpretation.

First, DOE acknowledges that it has, in the past, taken space constraints and similar limitations into account when setting product classes (*e.g.*, PTACs, ventless clothes dryers). For example, DOE was sensitive to the costs associated with requiring expensive building modifications when it decided to set separate equipment classes for standard size PTACs and non-standard size PTACs. 73 FR 58772 (Oct. 7, 2008). DOE expects that similar expenses would occur here, if DOE were to hold to its historical interpretation, at least for some subset of installations. Although limited data were provided to address the actual costs that consumers and commercial customers would face to modify their existing category I venting, there is little doubt that some number of such installations would be quite costly. These more complicated/costly installations are documented as part of DOE's analysis of the venting costs for residential furnaces, which considered potential venting modifications that could be required when replacing an existing category I furnace with a condensing (category IV) furnace (see appendix 8D of the 2016 SNO PR TSD for further details).

Second, DOE has in the past focused on the consumer's interaction with the product/equipment in deciding whether a performance feature is at issue. In the context of residential furnaces and commercial water heaters, DOE has focused on the primary function of the appliance (*e.g.*, providing heat to a home or potable hot water) in establishing the nexus to the consumer. In the past, DOE opined that consumers were only interested in obtaining heat or hot water from the appliance, so they would not care about the mechanism for generating that end product. However, commenters have made clear that in at least some cases, the physical changes associated with a condensing appliance may change a home's aesthetics (*e.g.*, by adding new venting into the living space or decreasing closet or other storage space), thereby impacting consumer utility even under DOE's prior approach.

Third, DOE notes that it has been its policy to remain neutral regarding competing energy sources in the marketplace. As certain commenters have pointed out and as DOE's own analyses have shown, some enhanced level of fuel switching is likely to accompany standard setting using DOE's prior interpretation. Many consumers who are currently gas customers may show a proclivity for that fuel type and would be negatively impacted by a standard that requires the purchase of a condensing unit to the extent they feel compelled to change to a different fuel type. DOE seeks neither to determine winners and losers in the marketplace nor to limit consumer choice.

Finally, DOE is very concerned about ensuring energy affordability, particularly for persons with low incomes. Although energy efficiency improvements may pay for themselves over time, there is a significant increase in first-cost associated with furnaces and water heaters using condensing technology. For consumers with difficult installation situations (*e.g.*, inner-city row houses), there would be the added cost of potentially extensive venting modifications.

In certain cases, commenters have argued that accommodating condensing products may not even be possible. Although DOE continues to believe that costs are properly addressed in the economic analysis portion of its rulemakings, it remains cognizant of such issues. DOE has tentatively concluded that the other reasons discussed immediately above are sufficient in and of themselves to justify the Department's proposed change in interpretation, but it acknowledges these cost impacts in order to be fully transparent in terms of the agency's thinking.

Creating separate product classes for condensing and non-condensing furnaces, water heaters, and similarly situated products/equipment (where permitted by EPCA) would prevent many of these potential problems. Although DOE's proposed revised approach may have some impact on overall energy saving potential as a result of establishing separate product/equipment classes, that is not the touchstone of EPCA's "features" provision; through that provision, Congress expressed its will that certain product utilities will take priority over additional energy savings measures. (For example, DOE did not eliminate the oven window which consumers found useful, despite the potential for further energy savings.) With that said, DOE believes that any potentially negative programmatic impacts of its revised interpretation are likely to be limited. This interpretation is likely to impact only a limited set of appliances, and DOE notes that market trends have favored the growing reach of condensing furnaces, even as non-condensing alternatives have remained available. DOE has every reason to believe that such trends will continue.

DOE would clarify the limitations of its proposed revised interpretation, based upon the existing statutory provisions. As discussed previously, DOE can effect this change for all relevant consumer products, all non-ASHRAE commercial and industrial equipment, and

ASHRAE equipment in those instances where DOE has clear and convincing evidence to adopt levels higher than the levels in ASHRAE Standard 90.1.

As noted, additional, subsequent DOE action is required before the interpretation in this proposed interpretive rule can be implemented. This proposed interpretive rule, therefore, does not alter the Department's current regulations. This interpretation does not and will not be used to abrogate DOE's responsibilities under existing laws or regulations, nor does it change DOE's existing statutory authorities or those of its regulators at the Federal, State, or local level. DOE anticipates continued engagement and productive involvement of members of the public and the regulated community in subsequent activities that may follow this interpretation.

V. Conclusion

As discussed immediately above, DOE is granting the Gas Industry Petition to the extent that it prospectively interprets the statute to provide that adoption of energy conservation standards that would limit the market of natural gas and/or propane gas furnaces, water heaters, or similarly situated products/equipment (where permitted by EPCA) that use condensing combustion technology would result in the unavailability of a performance related feature within the meaning of 42 U.S.C. 6295(o)(4) and 42 U.S.C. 6313(a)(6)(B)(iii)(II)(aa) and 42 U.S.C. 6316(a). Such interpretation would apply to all applicable residential products, non-ASHRAE commercial equipment, and ASHRAE equipment where DOE adopts a level more stringent than the ASHRAE level.

DOE is denying the Gas Industry Petition as it pertains to those rulemakings where ASHRAE sets standard levels that trigger DOE to consider and adopt those level (unless DOE finds clear and convincing evidence to adopt more-stringent levels), due to lack of authority. DOE is also denying the Gas Industry Petition's request for DOE to withdraw the proposed rules for residential furnaces and commercial water heaters as unnecessary. If this interpretive rule is finalized, DOE anticipates developing supplemental notices of proposed rulemaking (SNOPRs) that would implement the new legal interpretation for those two rulemakings.

Through this interpretive rule, DOE states its understanding of the best interpretation of the statutory text in light of the language and purposes of EPCA, so as to be consistent with Congress's direction. In light of further consideration and the information presented with and in response to the Gas Industry Petition, DOE's position has evolved, and it has tentatively concluded that this revised interpretation is the best reading of EPCA's "features" provision. This interpretation does not, by itself, change existing applicable DOE regulations or policies regarding individual appliance standards rulemakings. Implementation of this interpretation in the context of energy conservation standards for particular products or equipment, and any changes to existing policies that may be appropriate in light of this interpretation will be the subject of subsequent actions.

DOE wishes to make clear that an interpretative rule is a type of rule or regulation within the meaning of those terms in the Administrative Procedure Act (APA), 5 U.S.C. 551(4). It is well established under the APA that agencies have the authority to issue interpretative rules, and that these rules are a valuable tool for an agency to use to advise the public prospectively and in

a clear and transparent manner of the agency's construction of a statute it administers. As such, an interpretative rule does not have force and effect on its own. It is not until the agency takes an action in which the interpretation is applied that the interpretation can have an effect and, even then, only through that subsequent action.

When DOE considers this statutory interpretation in the context of taking any action in the future with regard to energy conservation standards rulemakings, it will evaluate its policies to determine if any require revision to accommodate this interpretation, and if so, DOE will follow applicable procedures to make any necessary changes. However, DOE's legal interpretations do not themselves constitute agency action.

DOE's interpretation does not have legal effect on its own. As appropriate, the public will be notified and have an opportunity to comment on any such proposals implementing the interpretation. Furthermore, the many substantive comments received, including comments that led to revisions of DOE's interpretation of the "features" provision," as reflected in this proposed interpretive rule, indicate that the public had a meaningful opportunity to comment on DOE's general interpretation. As DOE has indicated, there will be additional processes after the interpretation has been issued but before any rulemaking decisions are implemented.

VI. Public Participation

Submission of Comments

DOE invites all interested parties to submit in writing by the date listed in the **DATES** section of this document, comments and information regarding this proposed interpretive rule.

Submitting comments via <http://www.regulations.gov>. The <http://www.regulations.gov> webpage will require you to provide your name and contact information prior to submitting comments. Your contact information will be viewable to DOE Building Technologies staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any document attached to your comment. Persons viewing comments will see only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

Do not submit to <http://www.regulations.gov> information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (CBI)). Comments submitted through <http://www.regulations.gov> cannot be claimed as CBI. Comments received through the website will waive any CBI claims for the information submitted. For information on submitting CBI, see the Confidential Business Information section.

DOE processes submissions made through <http://www.regulations.gov> before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable

for up to several weeks. Please keep the comment tracking number that <http://www.regulations.gov> provides after you have successfully uploaded your comment.

Submitting comments via email, hand delivery, or postal mail. Comments and documents via email, hand delivery, or postal mail will also be posted to <http://www.regulations.gov>. If you do not want your personal contact information to be publicly viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information on a cover letter. Include your first and last names, email address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments.

Include contact information in your cover letter each time you submit comments, data, documents, and other information to DOE. If you submit via postal mail or hand delivery, please provide all items on a CD, if feasible, in which case it is not necessary to submit printed copies. No telefacsimiles (faxes) will be accepted.

Comments, data, and other information submitted electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, written in English, and free of any defects or viruses. Documents should not include any special characters or any form of encryption, and, if possible, they should carry the electronic signature of the author.

Campaign form letters. Please submit campaign form letters by the originating organization in batches of between 50 to 500 form letters per PDF or as one form letter with a list of supporters' names compiled into one or more PDFs. This reduces comment processing and posting time.

Confidential Business Information. Pursuant to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email, postal mail, or hand delivery two well-marked copies: one copy of the document marked “Confidential” including all the information believed to be confidential, and one copy of the document marked “Non-confidential” with the information believed to be confidential deleted. Submit these documents via email or on a CD, if feasible. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

Factors of interest to DOE when evaluating requests to treat submitted information as confidential include: (1) a description of the items; (2) whether and why such items are customarily treated as confidential within the industry; (3) whether the information is generally known by or available from other sources; (4) whether the information has previously been made available to others without obligation concerning its confidentiality; (5) an explanation of the competitive injury to the submitting person which would result from public disclosure; (6) when such information might lose its confidential character due to the passage of time, and (7) why disclosure of the information would be contrary to the public interest.

It is DOE’s policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

DOE considers public participation to be a very important part of its process for considering regulatory actions. DOE actively encourages the participation and interaction of the public during the comment period. Interactions with and between members of the public provide

a balanced discussion of the issues and assist DOE in determining how to proceed with a regulatory action. Anyone who wishes to be added to DOE mailing list to receive future document and information about this matter should contact Appliance and Equipment Standards Program staff at (202) 287-1445 or via e-mail at ApplianceStandardsQuestions@ee.doe.gov.

VII. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this document granting in part and denying in part the relevant petition for rulemaking and issuing a proposed interpretive rule.

Signed in Washington, D.C. on June 28, 2019.

Daniel R Simmons
Assistant Secretary
Energy Efficiency and Renewable Energy

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