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April 12, 2019

U.S. Department of Energy Office of Energy Efficiency and Renewable Energy 1000 Independence Avenue, S.W. Washington, D.C. 20585-0121

Re: RFI for Direct Heating Equipment Standard Docket No. EERE–2019–BT-STD–0002

Dear Ms. Johnson,

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) is the trade association representing manufacturers of air conditioning, space heating, water heating and commercial refrigeration equipment. The AHRI member companies that manufacturer gas-fired, vented direct heating equipment account for essentially all of the vented room heaters, wall furnaces (gravity and fan type) and floor furnaces that are sold and installed in the U.S. We submit the following comments in response to the Request for Information (RFI) on amending the efficiency standards for direct heating equipment (DHE) issued in the February 26, 2019 Federal Register. Our comments on the issues on which DOE is seeking comments are provided below.

In 2016, the Department of Energy (DOE) confirmed that amended energy conservation standards for Direct Heating Equipment were not economically justified. That determination remains true today. DHE products in 2016 made up a relatively small portion of the space heating market. Based on a preliminary review, the market has not changed. DHE products have not seen significant technological advancement since 2016, and the products available on the market three years ago are approximately the same as those available today. AHRI is undertaking a special data collection to provide more detailed information to the department about shipments and market shifts. Notably, the number of models and their corresponding efficiencies that are listed on the AHRI Directory have not changed in any significant way since 2016. In 2016, the Department of Justice found that increased minimum efficiencies would result in decreased competition. That decision relied on factors still present today.

AHRI will provide more detailed information once the special data collection is completed, but we strongly encourage DOE to issue a notice of proposed determination of no amended standard for DHE equipment, any other determination would not be economically justified and would fail to save a significant amount of energy.

Issue A.1 DOE requests comment on the definitions currently applicable to unvented heaters and whether any of the definitions should be revised, and if so, how. Please provide a rationale for any suggested change.

No recommended changes.

Issue A.2 DOE requests comment whether the definitions applicable to DHE require any revision, and if so, how these definitions should be revised. Please provide a rationale for any suggested change.

AHRI recommends against revisions to the definitions currently applicable to DHE. The definitions are appropriate as written and should not be revised.

Issue A.3 DOE requests comment on whether additional product definitions are necessary to close any potential gaps in coverage between product types. DOE also seeks input on whether such products currently exist in the market or whether they are being planned for introduction.

AHRI recommends against revisions to the addition of new product definitions. The product definitions as written capture the entirety of the market and additional definitions are not necessary.

Issue B.1 DOE requests feedback on the current DHE product classes and whether changes to these individual product classes and their descriptions should be made or whether certain classes should be merged or separated. DOE further requests feedback on whether combining certain classes could impact product utility by eliminating any performance-related features or impact the stringency of the current energy conservation standard for these products. DOE also requests comment on separating any of the existing product classes and whether it would impact product utility by eliminating any performance-related features.

AHRI recommends against changes to the product classes. The product classes are appropriate as currently defined and changes are not necessary.

Issue B.2 DOE seeks information regarding any other new product classes it should consider for inclusion in its analysis. Specifically, DOE requests information on the performance-related features (e.g., input capacity, equipment type, heater type, etc.) that provide unique consumer utility and data detailing the corresponding impacts on energy use that would justify separate product classes (i.e., explanation for why the presence of these performance-related features would increase energy consumption).

AHRI and its members believe the product classes currently defined holistically capture the DHE market and additional product classes are not necessary.

Issue B.3 DOE seeks information on the technologies listed in Table II.2 regarding their applicability to the current market and how these technologies may impact the efficiency of DHE as measured according to the DOE test procedure. DOE also seeks information on how these technologies may have changed since they were considered in the October 2016 Final

Determination analysis. Specifically, DOE seeks information on the range of efficiencies or performance characteristics that are currently available for each technology option.

AHRI members believe the use of the technologies listed in Table II.2 is generally not economically justifiable. Members have indicated that customers will often purchase other heating appliances before purchasing DHE with these technologies installed.

Additionally, the inclusion of electronic ignition in a direct heater can minimize the utility of the appliance.

Issue B.4 DOE seeks comment on other technology options that it should consider for inclusion in its analysis. DOE is particularly interested in information for any potential new technology options regarding their market adoption, costs, and any concerns with incorporating them into products (*e.g.*, impacts on consumer utility, potential safety concerns, manufacturing/production/ implementation issues).

Other technology options should not be considered for inclusion in this analysis. There have been few introduction of new technology for this product type in recent years.

Issue C.1 DOE requests feedback on what impact, if any, the screening criteria described in this section would have on each of the technology options listed in Table II.2 with respect to DHE. Similarly, DOE seeks information regarding how these same criteria would affect any other technology options not already identified in this document with respect to their potential use in DHE.

The proposed screening is appropriate and will result in most, if not all, of the technology options identified in Table II.2 being eliminated from further consideration as options to improve efficiency.

Issue D.3 DOE requests feedback on the appropriate baseline efficiency levels for any newly analyzed product classes that are not currently in place or for any contemplated combined or separated product classes, as discussed in section II.B.1 of this document. For product classes that would be newly analyzed (if any), DOE requests energy use data to develop a baseline relationship between energy use and input capacity.

As stated in response to Issue B.1, AHRI maintains that additional product classes are not required to holistically capture the direct heating market. As such, we have no recommendation on appropriate baseline efficiency levels for newly analyzed product classes.

Issue D.4 DOE seeks input on whether the maximum available efficiency levels are appropriate and technologically feasible for consideration as possible energy conservation standards for the products at issue, and if not, why not. DOE also seeks input on whether other maximum

efficiency levels are possible with technologies, or combinations of technologies, not currently incorporated in available designs.

AHRI recommends against the use of maximum available efficiency levels for as possible energy conservation standards for direct heating equipment. Condensing models continue to be significantly more expensive to produce than non-condensing models and are by and large not economically justified. Currently only one manufacturer offers condensing models, and only two options are listed on the AHRI Directory.

Issue D.5 DOE seeks feedback on what design options would be incorporated at a max-tech efficiency level, and the efficiencies associated with those levels. As part of this request, DOE also seeks information as to whether there are limitations on the use of options.

Condensing, multi-stage direct heating equipment equipped with a combustion fan and a circulating fan should be considered max-tech however, the development cost and product cost make this configurations not economically justifiable as a minimum efficiency standard.

Issue D.7 DOE also seeks input on the change in MPC associated with incorporating each particular design option. Specifically, DOE is interested in whether and how the costs estimated for design options in the April 2010 final rule have changed since the time of that analysis. DOE also requests information on the investments necessary to incorporate specific design options, including, but not limited to, costs related to new or modified tooling (if any), materials, engineering, and development efforts to implement each design option, and manufacturing/production impacts.

As stated in response to Issue B3, AHRI maintains that the incorporation of the technologies listed in Table II.2 is generally not economically justifiable and would require significant investment for manufacturers in the industry.

Issue H.1 DOE requests annual sales data (*i.e.*, number of shipments) for each DHE product class from 2008–2018.

A preliminary search of the AHRI Directory indicates that fewer model types are available on the market today than were available in 2016. AHRI is conducting a special data collection to collect shipment data for each DHE product class from 2016-2018. This data will be provided to DOE at a later date. Shipment data from 2008-2015 was provided in response to the NOPD for Direct Heating Equipment published in 2016 (EERE–2016–BT-STD–0007).

Issue H.2 If available, DOE requests the same information in Table II.5 by efficiency.

The data collected, referenced in Item H.1, will incorporate efficiency of products in each product class.

Issue I.1 To the extent feasible, DOE seeks the names and contact information of any domestic or foreign based manufacturers that distribute DHE in the United States.

The AHRI member companies that manufacturer gas-fired, vented direct heating equipment account for essentially all of the vented room heaters, wall furnaces (gravity and fan type) and floor furnaces that are sold and installed in the U.S. AHRI member companies in the direct heating industry include:

- Cozy Heating Systems, Inc.
- Empire Comfort Solutions
- Rasmussen Iron Works, Inc.
- Rinnai America
- Williams Furnace Company
- Vermont Casting Group

AHRI and its members have not comments at this time regarding the following issues.

Issue C.2 With respect to the screened out technology options listed in Table II.3, DOE seeks information on whether these options should, based on current and projected assessments regarding each of them, remain screened out under the screening criteria described in this section. With respect to each of these technology options, what steps, if any, could be (or have already been) taken to facilitate the introduction of each option as a means to improve the energy performance of DHE?

Issue D.1 DOE requests comment on whether it is necessary to individually analyze all 11 product classes, or whether the approach of analyzing a representative sub-set of product classes is appropriate for any potential future DHE energy conservation standards rulemaking. For example, analysis on the gas wall fan less than or equal to 42,000 Btu/h product classes may not be necessary if the analysis on the corresponding gas wall fan greater than 42,000 Btu/h product classes is applicable to both product classes. Additionally, DOE welcomes comment on potential approaches to apply the analyzed representative product class results to the other product classes, including the approach used for the April 2010 final rule. If it is necessary to individually analyze each of the 11 product classes (or more than the 11 classes), please provide information on why aggregating certain products is not appropriate. If this approach is not appropriate, what alternative approaches should DOE consider using and why?

Issue D.2 DOE requests feedback on whether using the current established energy conservation standards for DHE are appropriate baseline efficiency levels for DOE to apply to each product class in evaluating whether to amend the current energy conservation standards for these products. DOE requests data and suggestions to evaluate the baseline efficiency levels in order to

better evaluate the potential for amending energy conservation standards for these products.

Issue D.6 DOE requests feedback on how manufacturers would incorporate the technology options listed in Table II.2 to increase energy efficiency in DHE beyond the baseline. This includes information on the order in which manufacturers would incorporate the different technologies to incrementally improve the efficiencies of products. DOE also requests feedback on whether the increased energy efficiency would lead to other design changes that would not occur otherwise. DOE is also interested in information regarding any potential impact of design options on a manufacturer's ability to incorporate additional functions or attributes in response to consumer demand.

Issue D.8 DOE requests comment on whether certain design options may not be applicable to (or incompatible with) specific product classes.

Issue D.9 DOE requests feedback on whether a manufacturer mark-up of 1.35 is appropriate for all DHE.

Issue E.1 DOE requests information on the existence of any distribution channels that are used to distribute the products at issue into the market. DOE also requests data on the fraction of DHE sales in the residential sector that go through any identified channels.

Issue E.2 DOE requests recent data and recommendations regarding data sources to establish the mark-ups for the parties involved with the distribution of DHE.

Issue F.1 DOE requests comment on the overall method to determine the building sample for direct heating equipment and whether other factors should be considered in developing the building sample. In addition, DOE requests information on the installation applications of DHE, including, but not limited to the fraction of DHEs that are installed in residential and commercial applications, as well as how many DHE are typically installed per building.

Issue F.2 DOE requests comment on the overall method to determine energy use of direct heating equipment and if other factors should be considered in developing the energy use methodology.

Issue G.1 DOE seeks input on any available installation cost data for DHEs. DOE also seeks input on the approach it intends to use to develop DHE installation costs, specifically, its intention to use the most recent RS Means Mechanical Cost Data.

Issue G.2 DOE seeks comments and data on any rebound effect that may be associated with more-efficient DHE.

Issue G.3 DOE requests feedback and data on whether maintenance costs differ in comparison to the baseline maintenance costs for any of the specific technology options listed in Table II.2 and Table II.3. To the extent that these costs differ, DOE seeks supporting data and the reasons for

those differences.

Issue G.4 DOE requests information and data on the frequency of repair and repair costs by product class for the technology options listed in Table II.2 and Table II.3. DOE is also interested in whether consumers simply replace the products when they fail as opposed to repairing them.

Issue G.5 DOE also seeks comment on the extent to which repair or maintenance costs are covered by warranty, service, and/or maintenance agreements.

Issue G.6 DOE requests product lifetime data and information on whether product lifetime varies based on DHE product class, application, or efficiency.

Issue G.7 DOE requests information on the DHE market, including but not limited to, the current market share by different efficiency level and by product class, similar historical data, and information on expected future trends in the efficiency of DHEs.

Issue 1.2 DOE identified small businesses as a subgroup of manufacturers that could be disproportionally impacted by amended energy conservation standards. DOE requests the names and contact information of small business manufacturers, as defined by the SBA's size threshold, that distribute DHE products in commerce in the United States. In addition, DOE requests comment on any other manufacturer subgroups that could be disproportionally impacted by amended energy conservation standards for DHE. DOE requests feedback on any potential approaches that could be considered to address impacts on manufacturers, including small businesses.

Issue I.3 DOE requests information regarding the cumulative regulatory burden impacts on manufacturers of DHE associated with: (1) Other DOE standards applying to different products that these manufacturers may also make and (2) product-specific regulatory actions of other Federal agencies. DOE also requests comment on its methodology for computing cumulative regulatory burden and whether there are any flexibilities it can consider that would reduce this burden while remaining consistent with the requirements of EPCA.

We appreciate this opportunity to provide comments and participate in this rulemaking.

Respectfully submitted,

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