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Mr. Eric Stas
U.S. Department of Energy
Office of the General Counsel
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Re: Energy Conservation Program: Energy Standards for Residential Furnaces and Commercial Water Heaters, Notice of Petition for Rulemaking; Request for Comment

Docket ID No. EERE-2018-BT-STD-0018

Dear Mr. Stas:

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) is pleased to submit comments on the Petition for Rulemaking pertaining to Commercial Water Heaters and Residential Furnaces.

AHRI represents more than 300 manufacturers of air conditioning, heating, and commercial refrigeration equipment, including the leading North American commercial water heater and furnace manufacturers. It is an internationally recognized advocate for the HVACR industry, and certifies the performance of many of the products manufactured by its members. AHRI's members produce more than 90 percent of the residential furnaces and commercial water heaters purchased and installed in the U.S. In North America, the annual output of the HVACR industry is worth more than \$20 billion. In the United States alone, AHRI members employ approximately 130,000 people, and support another 800,000 dealers, contractors, and technicians.

AHRI members have reviewed the Petition for Rulemaking (the Petition) and have considered how the proposals in the Petition would impact the furnace and commercial water heating industry. The Petition raises interesting questions of law and policy, but due to the complexity of these issues, AHRI is declining to opine on the broader question of whether the DOE is obligated to create a non-condensing product class for every type of gas-fired equipment covered by a DOE efficiency regulation. Rather, AHRI prefers to address the narrower factual and procedural issues affecting the current rulemakings on commercial water heaters and residential furnaces cited in the Petition. These comments will address each product separately because each would be impacted differently by the proposals in the Petition.

Commercial Water Heaters

The Petition requests that the Department of Energy (DOE or the Department) rescind the Notice of Proposed Rulemaking (NOPR) for an Energy Conservation Standard for Commercial Water Heating Equipment, (81 Fed. Reg. 34440 May 31, 2016). In that NOPR, DOE proposed condensing minimum efficiencies of 94 percent and 95 percent thermal efficiency for instantaneous, instantaneous storage-type, and gas-fired storage water heaters, respectively. As stated above, AHRI reserves judgment on

whether a condensing minimum for commercial water heating equipment is permissible or appropriate. However, as AHRI has previously commented, in specific challenging installation conditions, a condensing water heater is not a cost effective or viable option. AHRI supports a reevaluation of the NOPR that narrowly tailors a solution for stranded commercial customers unable to install a condensing water heater due to the unavailability of effective venting.

AHRI and other manufacturers' comments on the NOPR identified a subset of problematic retrofit installation conditions that would prevent specific businesses or property owners from replacing a non-condensing water heater with a condensing water heater. These conditions include, but are not limited to: building codes prohibiting sidewall venting or non-metallic venting; physical characteristics of the building that prevent sidewall venting; chimneys that cannot be lined; and the high cost of installing a new venting system in certain instances, which may be prohibitively uneconomical.

AHRI's prior comments on the commercial water heater standard NOPR also acknowledged that the relevant data on these problematic installations is not easily accessible and identified further research that must be undertaken to characterize the building stock. Stakeholders and DOE can act to better understand the impacts of a condensing minimum for commercial water heating equipment on such problematic installations by understanding the attributes of the buildings in which the condensing water heater needs to be installed.

The problem may be narrow, but is significant. One manufacturer noted that transitioning a non-condensing water heater to a condensing gas storage water heater with the appropriate venting will be especially challenging in buildings of 10 or more stories. This amounts to nearly 16,000 buildings in the weighted RECS data, a small percentage of all apartment buildings, but a sizable problem since these are mostly in crowded urban areas where sidewall venting is not a practical option. In addition, there are 11,000 buildings 10 stories and over in the weighted CBECS data. Many of these would also have difficulties with sidewall venting.

While AHRI realizes not all of the 11,000 identified buildings will have problematic installations, AHRI does believe this issue needs to be more carefully considered. AHRI is working diligently with its members, and with other interested stakeholders, to identify the magnitude of the problematic installations in the building stock by analyzing a variety of industry and utility data. AHRI reiterates its recommendation that DOE undertake efforts to define and determine the characteristics and frequency of problematic stranded installations. Specifically, we suggested that DOE query:

- The conditions that can create a stranded installation.
- Building characteristics or other factors that make it possible to identify and quantify the number of such problem installations.
- The number of existing stranded buildings.
- Potential remediation opportunities to mitigate stranded installations.

AHRI offers its support of this effort with the expectation that DOE and stakeholders will find a creative, narrowly tailored solution to the specific concern of stranded installations.

Residential Furnaces

As stated above, AHRI recognizes that the Department is tasked with addressing complex legal questions that may have lasting policy implications. AHRI reserves judgment on the ultimate determination of the Petition at this interval. DOE is aware that AHRI submitted a Petition for Rulemaking impacting the test procedure for consumer warm air furnaces (AFUE2 Petition). In AHRI's petition, we requested that DOE promulgate a new test procedure for residential furnaces that will result in a single energy efficiency metric (AFUE2). Residential furnaces are currently triple-regulated, and DOE can reduce the regulatory burden by consolidating three applicable test procedures to one. AHRI stands by its petition and looks forward to working with the Department if and when the AFUE2 Petition is granted and a rule is promulgated.

AHRI has consistently advocated for appropriate sequencing of test procedures and energy conservation standards. We have stressed the importance of complying with the Process Rule by finalizing test procedure changes prior to opening new rulemakings on energy conservation standards. Given that AHRI has submitted a petition for a new residential furnace test procedure, we advise the Department to address the test procedure prior to reopening its analysis on the residential furnace rulemaking.

The gas utilities that authored the Petition made several requests. One was that DOE withdraw the Supplemental Notice of Proposed Rulemaking on amended energy conservation standards for consumer warm air furnaces. In AHRI's comments on that SNOPR, the association expressed strong concern with the proposal, believing, for example, that the consumer choice modeling used to support DOE's economic impact assessment was not grounded in reason. AHRI members also disagree that a proposal that negatively impacts a significant subset of consumers is economically justified. AHRI supports the Petition's request that DOE withdraw the consumer furnace SNOPR and reevaluate the energy conservation standard using AFUE2 as the efficiency metric.

In sum, AHRI endorses a simple, but reasonable approach. First, DOE should promulgate a new test procedure rule and adopt a single metric for residential furnaces. Second, DOE should implement the crosswalk required by a metric change. Third, DOE should reevaluate the proposed energy conservation standard for residential furnaces in light of the new metric.

Our members are committed to the realization of new furnace efficiency standards as soon as practicable and applaud DOE's efforts toward that end. We counsel DOE that test procedures must be addressed first, as required both by the Process Rule and by common sense. As such, we look forward to working with the Department and other stakeholders on the multistep approach to new furnace standards, the first step being creation of the AFUE2 test procedure.

Respectfully submitted,



Caroline Davidson-Hood
General Counsel