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October 14, 2015

Ms. Brenda Edwards
U.S. Department of Energy
Building Technologies Office, Mailstop EE-2J
1000 Independence Ave., SW
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ResFurnaces2014STD0031@ee.doe.gov

Dear Ms. Edwards

RE: Docket Number EERE-2014-BT-STD-0031 RIN 1904-AD20

Rheem Manufacturing Company (Rheem) submits the following written comments in response to the Notice of Data Availability (NODA) proposing new Energy Conservation Standards for Residential Furnaces. The NODA sets aside the proposed national standard at 92 percent AFUE and proposes a two tier standard which would restrict “large” furnaces to condensing technology and allow non-condensing technology for “small” furnaces. The comments below describe Rheem’s position with respect to certain conclusions drawn in the NODA .

INTERESTS OF RHEEM MANUFACTURING COMPANY

Rheem is a privately held company headquartered in Atlanta, Georgia, with U.S. operations in Alabama, Arkansas, California, Florida, Indiana, North Carolina, Texas, and Utah. In its 90th year of operation, the company is a global manufacturer of residential and commercial heating, cooling and water heating solutions including solar water heating systems, pool and spa heaters, commercial boilers, residential hydronic systems, commercial refrigeration products, and replacement parts for all categories. The company’s premium brands include Rheem, Ruud, Raypak, and Richmond. All manufacturing facilities are ISO 9001 certified. Rheem products have been recognized with multiple industry and consumer awards for reliability, innovation design and high quality.

Rheem provides expert and financial support to numerous standards and regulatory committees. The standards are related to energy consumption, safety, emission reduction, appliance installation practices, and education. Participation on these committees leads to a broad understanding of conflicts that may exist between the goals of individual organizations. Rheem products are designed to meet and exceed the expectations of our customers with regard to all aspects of their interactions with our products. Rheem supports the setting of technically-feasible and economically justified federal minimum efficiency standards, but believes that federal standards setting cannot separate issues related to energy conservation from safety.



INTEGRATED HOME COMFORT



GENERAL COMMENTS

Rheem joined stakeholders who objected to the national standard at 92 percent AFUE and supports DOE efforts to respond to the objections by proposing an alternative. On the surface, establishing separate standard levels for large and small residential non weatherized gas furnaces (NWGF) appears to overcome some objections related to consumer economics but does not address all the issues and concerns related to the fundamental flaws in the NOPR analysis and, more importantly, requirements that a change in federal standards ensure requirements of a safe and reliable installation can be maintained with a change from a non-condensing standard to a condensing standard.

If it was true, that low income consumers used “small” residential furnaces and Americans living on a fixed income lived in “small” energy efficient homes, the proposal could have merit. Many low income consumers have inadequate insulation as noted on page 5 of the ORNL Report titled, “Weatherization Assistance Program Technical Memorandum Background Data and Statistics on Low-Income Energy Use and Burdens,” http://weatherization.ornl.gov/pdfs/ORNLTM2014_133.pdf

“Small” furnaces are installed in “small” homes and multiple “small” furnaces are installed in “large” homes. As illustrated on page 11 and 13 of the Energy Star document titled, “A Guide to Energy Efficient Heating and Cooling,” an example of an energy efficient home provides separate zones for living and sleeping areas of the home.

http://www.energystar.gov/ia/partners/publications/pubdocs/HeatingCoolingGuide%20FINAL_9-4-09.pdf?442a-1e83

The issue is that “large” are installed in small, poorly insulated homes in cold climates. The adoption of a two tier system would further limit choices of American consumers with few choices and acknowledge the good choices made by many consumers who have the resources to follow guidance from Energy Star documents. The DOE proposal would benefit low and fixed income consumers who live in “small” energy efficient homes. The DOE proposal would do nothing for consumers with similarly challenging financial circumstances who live in older homes that are not well insulated or maintained and do not meet the recommendations of the Energy Star guidelines. Industry statistics support that the market (in absence of a change in federal standards) is moving to condensing products when the economic choice is favorable. In fact, in the “north” the majority of the furnaces sold are condensing products.

RHEEM CONCERNS FOR CONSUMER SAFETY ARE NOT ADDRESSED IN THE NODA

According to many psychological studies and practical experience, when homeowners suffer a loss of heat in their home, the only concern is to restore a warm environment. Furthermore, a loss of heat in a structure during the winter may also limit the availability of water in the home. A family facing a loss of heat and water is not logically considering the impact of long range financial decisions or even potential long range safety concerns. The homeowner is not weighing the pros and cons in a 30 year payback analysis. Rheem believes that the conversion of a non-condensing furnace to a condensing





furnace has significant associated safety implications that may not be addressed in a “no-heat” emergency.

RHEEM REVIEW OF REGIONAL SALES

A review of the DOE NODA resulted in an observation that the DOE proposal would result a residential furnace market with the majority being made up of condensing furnace technology and a minority of non-condensing furnaces. The NODA provides a representation of this market in Table II.2.

TABLE II.2—SHARE OF SAMPLE HOUSEHOLDS BY FURNACE SIZE
[percent]

Furnace size	Small furnace definition				
	≤45 kBtu/hour	≤50 kBtu/hour	≤55 kBtu/hour	≤60 kBtu/hour	≤65 kBtu/hour
Large	92	86	85	68	62
Small	8	14	15	32	38
Total	100	100	100	100	100

A review was conducted of all Rheem furnace sales in 2013. The sales were divided by State, capacity (small vs. large), and technology (condensing versus non-condensing.) It was found that for the case of small furnaces <55 kBtu/hour; the DOE estimate above of 15% is overstated and is much closer to 10% based on Rheem sales.

The NODA updates markups, product prices, and installation costs of gas furnaces; however the updates are still significantly underestimated based upon the results of the Industry study (in which Rheem participated). Those results were provided to the Department by AHRI. These differences must be addressed before a two standards concept can be considered.

CLOSING COMMENTS

Rheem has considered the analysis provided in the NODA carefully. It is agreed that a potential standard level segmented by furnace capacity would ease some burden on low and fixed income consumers but, it provides no relief to a homeowner facing the “no-heat” emergency. The homeowner must trust that the “quick fix” offered due to the elimination of noncondensing furnace heating solutions will keep their home safe for their family.

Rheem avows our commitment to support the establishment of cost effective minimum efficiency standards for residential water heating, heating, and cooling equipment and our willingness to consider various ways to promote the establishment of such standards that result in energy savings and reasonable economic justification for consumers. To that end, Rheem is heavily engaged with other stakeholders in order to try and develop a jointly supported recommendation of small and large gas furnace standards to replace the single proposed standard in the March 2015 NOPR. Correcting



the analysis, as well as adequately addressing safety and reliability concerns, must be achieved before a two tier recommendation can be supported.

Thank you for the opportunity to comment. If you have any questions regarding this submission, please do not hesitate to contact me.

Sincerely,
RHEEM MANUFACTURING COMPANY

A handwritten signature in black ink, appearing to read "Diane Jakobs". The signature is fluid and cursive.

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cc: Karen Meyers – Rheem VP, Government Affairs

