



Mr. John Cymbalsky
U.S. Department of Energy
Building Technologies Program
Mailstop EE-5B
1000 Independence Avenue, SW.
Washington, DC 20585-0121

November 22, 2016

Re: Supplemental Notice of Proposed Rulemaking (SNOPR) for Energy Conservation Standards for Residential Furnaces

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

Dear Mr. Cymbalsky:

Northeast Energy Efficiency Partnerships (NEEP), along with the Connecticut Department of Energy and Environmental Protection, the Massachusetts Energy Consumers Alliance, the New York State Energy Research and Development Authority, the Rhode Island Office of Energy Resources, Peoples Power and Light (Rhode Island), the Vermont Public Service Department, and the Institute for Market Transformation (henceforth referred to as “NEEP”) thank the Department of Energy (DOE) for the opportunity to comment on its Supplemental Notice of Proposed Rulemaking (SNOPR) for Residential Gas Furnaces. We represent a broad and diverse group of stakeholders from across the Northeast and Mid-Atlantic region that are very interested in the ultimate result of this rulemaking process, for the Final Rule will have direct and significant impacts to our states, communities and territories. NEEP works collaboratively with a network of stakeholders that span state energy officials, efficiency program administrators, local efficiency advocates and many others to maximize the benefits associated with federal appliance standards rulemakings. Doing so provides economic benefits while protecting public health and the environment.

The effort to set strong energy efficiency standards for Residential Gas Furnaces is of paramount importance for the Northeast and Mid-Atlantic states; our states face some of the most aggressive energy use and carbon emission reduction goals in the country and are home to consumers who live with energy costs that surpass most of the nation and that unnecessarily burden the economy.

Residential Gas Furnaces have experienced an unprecedented history of fits and starts with respect to minimum efficiency standards over the past 15 years. The Northeast and Mid-Atlantic region brings a wealth of experience regarding gas furnace efficiency and have been actively involved in many efforts to establish



minimum efficiency performance requirements. Various states and organizations from the Northeast and Mid-Atlantic have been actively pursuing and advocating for condensing levels ($\geq 90\%$ AFUE) for over 10 years.

In general, NEEP is very supportive of this proposal. We feel that this standard is long overdue to adopt condensing levels for the higher capacity units, and the time to act and finalize this rule is now. Below we outline several specific comments and recommendations for DOE's consideration.

NEEP Supports the 55 kBtu/hr cut-off as well as the 92% AFUE level; should DOE consider moving to 60 kBtu/hr cut-off, NEEP would assert that a higher AFUE level be set

Throughout the analysis, NEEP agrees with DOE's conclusion that 55 kBtu/hr is an appropriate size cut-off. The energy savings and consumer impacts justify this combination of 92% AFUE and a 55 kBtu/hr cut-off level. There are many factors to balance in arriving at an appropriate cut-off size, and NEEP agrees with the Department that the significant benefits of these proposed levels far outweigh the associated costs to a small population of consumers. Should DOE reconsider the slightly larger cut off size of 60kBtu/hr, NEEP would assert on a higher efficiency level for higher capacity systems such, as 95% AFUE. This shift would yield a comparable amount of energy savings and associated benefits.

NEEP Find the Standby Power Limits realistic and achievable.

NEEP recognizes the challenge that DOE has in creating "future proof" standards that can remain relevant throughout time, especially on an issue such as standby power that is gaining attention as more products are connected to the Internet. NEEP finds that the 8.5W standby power limit proposed by DOE is both realistic and builds in some wiggle room for increased functionalities for two primary reasons. First, the trajectory for connected HVAC has largely been with regards to the thermostat, with smart thermostats gaining in popularity throughout the country and world. Thermostats are able to use advanced sensors and analytics to control the HVAC equipment they are connected to. As such, much of the processing of potential information is happening with the thermostat, with the furnace only needing to be able to receive the final signal the thermostat determines. This is the trend currently underway and moves the processing power that could possibly necessitate a high standby power from the furnace to the thermostat.



The second assurance that 8.5W is sufficient is that even if a furnace were connected and not interfacing with a smart thermostat, the ability for what can be processed on the furnace is limited. Any modulation that a modern thermostat may do in response to an outside signal would take minor processing power. For reference, ENERGY STAR is creating a connected thermostat specification¹ where the current proposed standby limit for the thermostat is 3W. That connected thermostat may be incorporating: geofencing, multiple communications protocols, occupancy sensing, humidity sensing, a display inside the home, as well as processing those data inputs and sending signals to HVAC equipment accordingly. If all of that can be done for less than 3W, a connected furnace should certainly be able to function properly (i.e. receive and respond to connected signals) with an 8.5 W allowance.

This standard is a win for consumers

Condensing gas furnaces have been available and promoted for years in the Northeast, Mid-Atlantic and other parts of the U.S. In the Northeast and Mid-Atlantic, where heating costs can be the majority of a home's energy bill, the economics of condensing furnaces makes sense and customers have been adopting the technology. In Southern regions of the country where the heating loads are not as high, the payback period in many cases will be longer. The split, therefore, that DOE has proposed between larger, more efficient units and smaller, less efficient units is designed to provide positive Life-cycle costs results for multiple populations, a laudable achievement for a national standard.

In renter scenarios, while the renter may be responsible for the energy used for their furnace, they are rarely if ever in control of the purchase of a new furnace. This standard would ensure that landlords install appropriately efficient equipment in rental properties and improve the economic burden of the renters paying for less efficient equipment.

Ultimately, through the huge energy savings that would result from this rule, households throughout the country can find that they have fewer carbon emissions and better air quality through associated benefits of energy savings. The economic and health benefits resulting from the energy savings would be a major win across the nation.

¹ https://www.energystar.gov/products/spec/connected_thermostats_specification_v1_0_pd



NEEP and Connecticut Department of Energy and Environmental Protection, the Massachusetts Energy Consumers Alliance, the New York State Energy Research and Development Authority, the Rhode Island Office of Energy Resources, Peoples Power and Light (Rhode Island), the Vermont Public Service Department, and the Institute for Market Transformation appreciate the opportunity to weigh in on this important rulemaking. We welcome any questions on any of our comments and look forward to the timely and successful implementation of a strong and informed residential gas furnaces standard.

Sincerely,

A handwritten signature in black ink, appearing to read 'Claire Miziolek', with a long horizontal flourish at the end.

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