

**From:** Lis, David J. [[SMTP:DJLIS@NEEP.ORG](mailto:DJLIS@NEEP.ORG)]  
**Sent:** Monday, March 29, 2010 2:29:23 PM  
**To:** MAExemptPetition  
**Cc:** Coakley, Sue; O'Reilly, Jim; [Penelope.Conner@nstar.com](mailto:Penelope.Conner@nstar.com);  
[phil.giudice@state.ma.us](mailto:phil.giudice@state.ma.us)  
**Subject:** Massachusetts Petition (EERE-BT-PET-0024)  
**Auto forwarded by a Rule**

Hello Brenda,

Please find NEEP's comments regarding Massachusetts Furnace Waiver attached. Contact me if you have any issues opening the file.

Thank you.

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**David Lis**  
*Appliance Standards Project Manager*

**NEEP (Northeast Energy Efficiency Partnerships)**

**\*New Address\***  
91 Hartwell Avenue  
Lexington, MA 02421  
t: 781-860-9177 ext. 127  
f: 781-860-9178  
[www.neep.org](http://www.neep.org)

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March 29, 2010

Ms. Brenda Edwards  
U.S. Department of Energy  
Building Technologies Program  
Mailstop EE-2J  
Room 1J-018  
1000 Independence Avenue, SW.  
Washington, DC 20585-0121

Re: Petition of Massachusetts, Furnace Efficiency Standard (EERE-BT-PET-0024)

Dear Ms. Edwards:

Thank you for the opportunity to comment on Massachusetts' Petition to Exempt from Federal Preemption Massachusetts' 90 Percent Annual Fuel Efficiency ("AFUE") Standard for Non-weatherized Gas Furnaces, dated October 1, 2009 ("the Petition"). Northeast Energy Efficiency Partnerships (NEEP) would like to express its strong support of the Petition and hopes the Department will, without delay, grant Massachusetts the waiver in order to implement its 90 Percent AFUE Gas Furnace minimum efficiency standard.

Setting aggressive appliance standards, such as the one presented in the Petition, is integral to reducing energy consumption, especially in Massachusetts, where "unusual and compelling" circumstances exist related to energy. Massachusetts residents are burdened by some of the highest energy costs in the nation. In addition, the number of "heating degree days" in Massachusetts greatly exceeds the national average. This combination of high energy prices plus long cold winters results in Massachusetts residents needing to spend more on heating than the average U.S. resident. Moreover, the unusually high number of renters in Massachusetts means that a greater number of Massachusetts residents are not in the position to choose the efficiency of the furnace used to heat their homes.

While the Petition quite capably illustrates the state's unique need for such a standard, I will not restate the list of benefits the state stands to achieve. Instead, I would like to address a couple of concerns we are aware some industry groups are raising as reasons this standard would have negative consequences.

Quoting from a recent letter the American Gas Association (AGA) sent to Senators Bingaman and Murkowski regarding the proposed S. 3059, National Energy Efficiency Enhancement Act of 2010;

"AGA has serious concerns about the likely negative impact of the provisions of Section 2(e) (page 14) of the bill with respect to furnaces, especially as they pertain to the replacement market. Our primary concern is that Section 2(e) would require that furnaces manufactured on or after May 1, 2013, for use in "northern" states must have an Annual Fuel Utilization Efficiency (AFUE) of at least 90 percent. While laudable, this mandate could ultimately encourage consumers to either switch to oil or electric furnaces, or repair rather than replace their furnace or, worse yet, not make the needed changes on the common-vented water heater venting system, which could result in a safety hazard.

To prevent this unintended consequence from occurring, AGA proposes that the bill be amended so that the requirements for a 90 percent AFUE furnace would apply only to new construction and not replacement furnaces. Further, AGA proposes making the effective date January 1, 2015."



It is my understanding that these concerns extend to Massachusetts' waiver effort. Are their concerns legitimate? In order to verify their assertions I reviewed some data on equipment costs and installation costs from the 2007 TSD for gas and oil furnaces (no analysis for electric furnaces) ([Appendix C, Engineering Analysis Cost and Efficiency Tables](#));

*Incremental costs between proposed baseline 90% AFUE gas furnaces and current baseline (78%) oil furnaces;*

No incremental equipment cost, in fact baseline oil furnaces cost roughly \$2000 versus \$1,600 for the 90% AFUE gas furnaces.

*In the case of retrofits;*

Installation costs for 90% AFUE gas furnace? \$1,066 (only \$250 more than a baseline 80% AFUE gas furnace)

Installation costs for baseline oil furnace? \$575

Incremental installation cost: ~\$500

One big cost is not accounted for- Oil furnaces require an oil storage tank. DOE did not include this in their analysis and it does not appear AGA factored this cost in either. From a quick survey of a number of oil furnace installers, oil storage units range in installed cost (equipment and labor) of \$1,500 to \$2,000. Any incremental installation costs would be overwhelmed by the upfront cost of installing a new storage tank.

Any likelihood of gas furnace users making a switch to electric furnaces (heat pumps), I would suggest, is quite low. There are very few electric furnaces currently in Massachusetts for good reasons. The cost to operate electric appliances is very high in Massachusetts due to the electricity utility rates (see below), and the current state of the technology includes performance issues in colder climates like Massachusetts. Any assertions from industry groups regarding this scenario should be supported by clear, complete cost analysis, which it currently is not.

Electricity price comparison<sup>1</sup>

Region	Residential Prices (cents/kWh)
New England	17.3
U.S. Weighted Average	11.8

We would also reject any proposal that would limit this standard to new construction. The replacement market in Massachusetts is approximately 2 to 1 (19,200/10,200) compared to the new construction market, according to the report by Optimal Energy Analysis found in Attachment D of the Petition. This sort of compromise would undermine two thirds of projected savings.

This Waiver Petition is not occurring in a vacuum. On a parallel track, there is a separate Consensus Agreement<sup>2</sup> among various industry groups (Air-Conditioning, Heating and Refrigeration Institute and

<sup>1</sup> Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State, October, 2009, U.S. Energy Information Agency ([http://www.eia.doe.gov/cneaf/electricity/epm/table5\\_3.html](http://www.eia.doe.gov/cneaf/electricity/epm/table5_3.html))



NEEP Comment Letter to U.S. DOE on Massachusetts Furnace Waiver Petition, March 29, 2010

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others) and various energy efficiency advocacy groups (American Council for an Energy-Efficient Economy and others including NEEP) which urges DOE to adopt the 90 percent AFUE standard in many states. While our organization is a co-signer of this consensus agreement and supports its implementation, there is no guarantee from the Department when they will act on this voluntary agreement. I therefore respectfully but strongly urge you to approve the Massachusetts Petition by the October 2010 deadline, if not sooner.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Susan E. Coakley". The signature is written in a cursive style.

Susan E. Coakley, Executive Director

cc:

Phil Guidice, Commissioner, Massachusetts Department of Energy Resources  
Penni McLean-Connor, Vice President of Customer Care, NSTAR Electric & Gas Company (NEEP Board President)

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<sup>2</sup> "Agreement on Legislative and Regulatory Strategy for Amending Federal Energy Efficiency Standards, Test Procedures, Metrics and Building Code Provisions for Residential Central Air Conditioners, Heat Pumps, Weatherized and Non-Weatherized Furnaces and Related Matters, October 13, 2009," available at: <http://www.standardsasap.org/documents/Furnace-ACAgreement.pdf>.