

February 8, 2010

Honorable Cathy Zoi  
Assistant Secretary for Energy Efficiency and Renewable Energy  
U.S. Department of Energy  
1000 Independence Ave, SW  
Washington, DC 20585-0121

Re: Water heater docket: EERE-2006-BT-STD-0129 and RIN 1904-AA90

Dear Assistant Secretary Zoi:

We are very pleased with the Department of Energy's proposed new efficiency standards for most storage-type residential water heaters. However, we urge you to reconsider the proposed standards for the largest volume units. Stronger standards for the biggest units would boost total national energy savings, economic benefits for consumers, and CO<sub>2</sub> reductions by more than 40% compared to the proposed rule. Just as importantly, DOE would be helping advanced technologies become mainstream and speeding the transition to next-generation water heaters. This transition promises long-term savings several fold larger than this rule's direct benefits.

DOE's proposed standard, "Trial Standard Level (TSL 4)," would save about 6% for a typical gas storage water heater and about 4% for a typical electric unit. DOE shows that these levels can be met with incremental improvements (e.g. more insulation, increased heat exchange area) to existing products. DOE also evaluated "TSL 5," which is the same as TSL 4 for most water heaters, but shifts to a much higher efficiency level for products with 55 gallons or more of storage capacity. Condensing gas products and heat pump water heaters would meet these higher levels, delivering roughly 30% and 50% energy savings, respectively, compared to conventional gas and electric products. These advanced technologies are commercially available today: multiple manufacturers have qualified heat pump water heaters for sale under the federal Energy Star program and condensing gas products sold in the commercial market are readily adaptable to residential application.

The table below highlights the national savings achievable with TSL 5 compared to the proposed standard. Even though only a small portion of the market must meet the higher efficiency levels,<sup>1</sup> national savings increase significantly at TSL 5 due to the much larger per unit savings achieved.

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<sup>1</sup> Per DOE, only about 4% and 9% of the gas and electric water heater markets, respectively, are 55 gallons or greater.

**TSL 4 v. TSL 5: Cumulative savings (over 30 years)**

	<b>TSL 4</b>	<b>TSL 5</b>	<b>Additional savings at TSL 5</b>
Energy	2.6 quads	3.7 quads	1.1 quads*
Economic	\$15.6 billion	\$22 billion	\$6.4 billion
Environmental	154 million metric tons of CO2	217 million metric tons of CO2	63 million metric tons**

\* 1.1 quads is about equivalent to the total annual energy use of over 5 million typical U.S. homes.

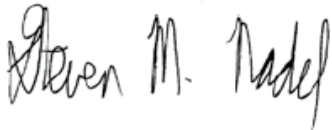
\*\* 63 million metric tons is about equivalent to the annual emissions of 25 coal-fired power plants.

We note that DOE's analysis shows that standards that effectively require advanced technologies for *all* volumes would yield national benefits several times larger than even TSL 5. However, by adopting the strongest efficiency levels for only the largest units, DOE would help assure a market for these new emerging products where they are most cost effective. TSL 5 addresses the key concerns which have been raised about higher standards. The affected larger water heaters are more likely to be found in large homes, where added space and higher home prices tend to make these high-efficiency technologies more feasible to install and less of a first-cost burden to the buyer. The actual daily hot water use tends to be greater in homes with a larger capacity water heater, thus further increasing the actual energy savings to consumers. Finally, the limited scope (combined with the five year lead time before the effective date) will make the new standards more manageable for manufacturers, equipment installers, and servicers than standards which effectively require heat pump water heaters and condensing gas products in all sizes.

In the proposed rule, DOE wrote that it will "strongly consider other Trial Standard Levels, some of which might provide an even higher level of energy savings and promote a market for advanced water heating technologies, including heat pump and condensing water heaters." TSL 5 offers a middle ground that increases savings relative to DOE's proposal while also fostering the development of precisely the knowledge base and market infrastructure needed for a longer term, market-wide transition to high-efficiency technologies.

With water heating representing the third largest energy user in the home, it is essential that DOE seek substantial changes in water heater efficiency to meet national energy savings and CO<sub>2</sub> reduction goals. We appreciate that DOE recognizes the potential benefits at stake and strongly urge you to choose TSL 5 for the final rule.

Sincerely,



Steven M. Nadel, Executive Director  
American Council for an Energy-Efficient Economy



David Terry, Executive Director  
National Association of State Energy Officers



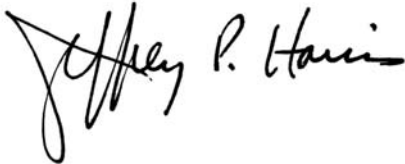
Karen Douglas, Chairman  
California Energy Commission



Mel Hall-Crawford, Energy Projects Director  
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Duane J. Larson, Director, Customer Energy Efficiency  
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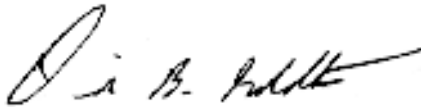
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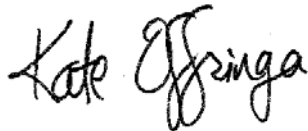
David B. Goldstein, Co-Director, Energy Program  
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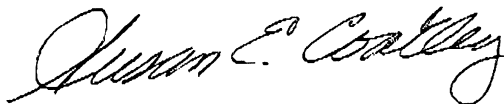
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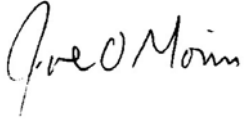
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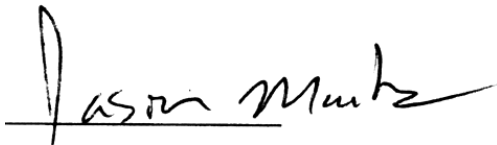
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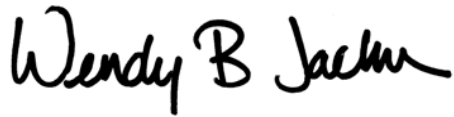
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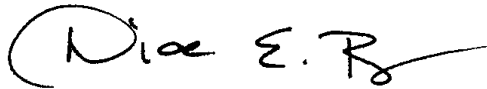
Thomas C. Larson, Florida Energy Policy Manager  
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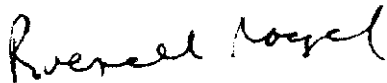
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Sara Patton, Director  
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Dr. Kathleen Hogan, Deputy Assistant Secretary for Energy Efficiency, EERE  
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