

November 26, 2007

Richard Karney
Josh Butzbaugh
US Department of Energy
Energy Efficiency and Renewable Energy Division
1000 Independence Avenue SW
Washington, DC 20585

Dear Mr. Karney and Mr. Butzbaugh:

EPRI is very pleased to learn about the DOE/EPA efforts to develop Energy Star criteria for residential water heaters. We applaud your efforts to bring Energy Star certification to all residential water heaters (electric and gas), in order to improve the energy efficiency of water heaters in homes across the nation.

Our activities and projects within the Energy Efficiency Initiative at EPRI are also focused on developing, testing and commercializing smart and efficient electrical appliances, devices and systems. We have 42 electric utility companies that have funded the Initiative this year; our research will help them to promote smart and efficient end-use equipment within their service territories.

While we agree in principle on your water heater criteria development paper, we would like to make comments on electric resistance storage water heaters. We do not agree that electric resistance storage water heaters should be excluded from the Energy Star designation, for the following reasons:

- Electric resistance storage water heaters have close to 50% of the US market share. Out of this, the share of the high efficiency (0.95 EF) heaters is very low; in fact, the 0.95 EF water heaters are not available in several parts of the country. By designating such heaters as Energy Star, consumer demand will accelerate the availability of such heaters in most areas of the country.
- For a nominal additional equipment cost and no additional installation cost, a 0.95 EF electric resistance storage water heater saves 257 kWh per year over a 0.90 water heater. If 20% of the 0.90 EF water heaters were replaced by 0.95 EF heaters, the country would save >250 million kWh per year. This is a low hanging fruit for the rapid implementation of energy efficient water heaters!
- Mass introduction of such high efficiency heaters would propel manufacturers to provide additional value-added accessories, such as “smart” controllers on water heaters. This would allow home owners to monitor the state of the heater (especially anode protection), detect any leaks, conduct routine maintenance, and take advantage of preferential electricity prices (such as time-of-use tariffs and

real time prices) to operate heaters only when the cost of electricity is low. This would spur the adoption of demand responsive water heaters, which in turn would help flatten electricity demand peak during times when the nation's grid is congested.

For these reasons, we believe that the most practical means to save energy with electric water heating is to encourage the use of 0.95 EF electric resistance water heaters through an Energy Star designation. This is justified by the very low incremental cost, the potential for rapid and large market penetration, and the potential for value-added accessories. We believe this will lead to a very substantial national energy savings and peak electric demand reduction potential.

If you have any questions, please do not hesitate to contact us.

Yours sincerely,



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