



GE Consumer & Industrial

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Richard Karney
Energy Star Program Manager
U.S. Department of Energy
Building Technologies Program
1000 Independence Avenue, SW
Washington, DC 20585-0121

Re: Establishment of ENERGY STAR[®] Criteria for Water Heaters

Dear Mr. Karney,

GE is pleased to submit these comments regarding the Department of Energy's ("DOE" or the "Department") draft criteria for establishing qualification levels for an ENERGY STAR category for domestic hot water heaters. GE supports the DOE and its efforts to establish ENERGY STAR criteria for hot water heaters, and believes that the establishment of criteria can provide substantial incentive to develop and market highly efficient domestic water heaters. GE has a long history in innovation and in the development of energy efficient products, and we believe that energy efficient water heaters offer substantial energy and energy cost savings for the American consumer.

I. Only the Most Advanced Efficiency Technology Products Should Be Represented in the ENERGY STAR Program.

Most Advanced water heater technologies show great promise for reducing the energy usage required to supply domestic hot water. By developing reasonable ENERGY STAR criteria for these products new designs and brands of highly efficient water heaters will be introduced into the domestic market.

a. Whole-home Tankless Water Heaters

GE believes that the departments proposed criteria for Whole-home tankless gas water heaters of 0.80 and 3.5 gpm at 77F rise, while challenging, are reasonable and can be met by available technology. We support the department's criteria level for efficiency and water delivery for gas Whole Home Tankless water heaters.

But Whole-home tankless *electric* water heaters do not offer significantly improved efficiency beyond conventional storage type water heaters. This, combined with the very difficult electrical installation requirements are more than enough to preclude the product from consideration as an ENERGY STAR product.

b. Heat Pump Water Heaters

Heat Pump water heaters have experienced a less than stellar past. The combination of poor performance, poor reliability, poor service capabilities and limited distribution gave consumers an unacceptable product. The product's potential energy savings, however, if the performance and other problems can be remedied, require that it be reconsidered for inclusion in the ENERGY STAR Program. If a product, brand, and market delivery system could be developed that overcomes the past hurdles, a substantial energy impact on domestic water heating could be achieved. GE believes that the DOE's suggested energy factor of 2.0, and the proposed first-hour delivery requirement of 50 gallons per hour are reasonable and, therefore, supports the proposed criteria.

c. Solar Water Heaters

GE has made a substantial investment in alternative energy-generating technologies. Our photovoltaic and wind turbine systems increasingly provide significant amounts of clean, renewable energy. DOE ENERGY STAR program for water heaters must include solar water heating technology. The complexity and cost of solar water heating installations may limit its use in the near term, but its development should be encouraged. GE supports the departments proposal of a minimum solar fraction of 0.50 and a OG-300 certification.

d. Gas Condensing Water Heaters

GE supports establishing energy-efficiency targets, not dictating technologies used to meet them. Gas condensing water heaters are not currently available in the marketplace, but if such products that meet a proposed energy factor of 0.80 can be developed, they should be included

as part of the ENERGY STAR program. The 0.80 energy factor level, a reduction of approximately 30% over conventional gas water heaters, provides significant energy savings.

e. Advanced Non-Condensing Gas Storage Water Heaters

Non-condensing gas water heaters that can provide significant improvement in energy factor should be included in the ENERGY STAR program. However, the proposed 0.70 Energy Factor, a 16% improvement over current gas storage water heater technologies is not significant enough to warrant inclusion. GE supports a minimum 0.80 Energy Factor and 50 gallon first hour rating for all storage type gas water heaters regardless of the technology used in the product. Since the non-condensing gas storage water heaters cannot provide that level of efficiency it should not be included in the ENERGY STAR program.

II. Marginally Improved Conventional-technology Products Should Not be Included in the ENERGY STAR Program.

Electric resistance technologies are close to their theoretical limits and the savings to be obtained by further improvements are very small. Conventional gas water heaters do not have the efficiency levels of electric resistance water heaters, but without significant changes to the technology (essentially developing an advanced technology gas product) higher levels cannot be achieved. The small savings that might be obtained by the marginal improvements of these products does not meet the department's objective of meaningful differentiation between ENERGY STAR products and those products that just meet the Federal Standards. Based upon the lack of significant energy savings, and the lack of consumer benefit that might be obtained from these products, GE agrees with the Department's conclusion that electric resistance storage and gas storage water heaters should not be included in the ENERGY STAR program.

III. The Proposed Warranty Requirement

GE does not believe that imposing warranty requirements is a legitimate ENERGY STAR program criterion. Warranties are an element of product pricing. Requiring warranties - and even worse, warranties of a specific length - is the equivalent of imposing a price on consumers. Water heaters are integral to comfort and safety and only companies with the weight and U.S. presence to stand behind the products should manufacture and market them. Consumers are more than capable of making informed product choices based on brand and reputation.

A warranty is only as good as the company behind it. Attaching a six or even ten year paper warranty to a poor product will not improve its performance or reliability, and

cannot guarantee that the company marketing that product will be able or willing to stand behind it. Companies should be permitted to provide warranties and services that the marketplace requires. Product reliability, warranty and product performance belong in the domain of the marketplace, not ENERGY STAR criteria. For these reasons GE does not support requiring warranties as an ENERGY STAR qualification.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "K. M. Ruppelt".

Kevin Ruppelt

CC: Earl F. Jones