A.O.SMITH
WATER PRODUCTS
COMPANY

November 26, 2007

Mr. Richard Karney
Program Manager, Energy Star
U. S. Department of Energy

Dear Richard:

All parties involved with Energy Star for water heaters want this program to be very successful once it is implemented. A. O. Smith is pleased to be able to assist in the development of an Energy Star program by providing input which we believe will contribute a successful program. As you would expect, we have a number of issues that we feel need to be carefully considered in any Energy Star program for water heaters.

First and foremost, the requirement of minimum warranty is not appropriate for Energy Star. The stated purpose of Energy Star program is to help "save money and protect the environment through energy efficient products and practices." Longer warranties will not help achieve this objective.

Besides being without broad precedent within other Energy Star programs, this requirement will raise the cost to the consumer without improving quality for the consumer. (More expensive Energy Star appliances such as dishwashers and televisions are available with a one year warranty. We believe Energy Star water heaters should be consistent with other Energy Star appliances.) Warranty does little to insure quality or reliability and may jeopardize the Energy Star reputation. If an unreliable product is certified under the Energy Star program and the manufacturer subsequently goes out of business or refuses to honor the warranty, the reputation of the Energy Star brand will be severely damaged.

Many in the energy efficiency community have complained that water heaters are currently sold at retail on the basis of warranty length and not energy efficiency or features. The use of a minimum warranty in Energy Star will just promulgate the competition on the basis of warranty rather than performance or value.

Warranty features are best determined by competition in the free market and should not be dictated by regulation or standards. In reality, a warranty in the water heater industry is marketing program which adds to the price a consumer must pay for the product. Water heaters with longer warranties have the same reliability and quality (and virtually the same design) as those with shorter warranties. The increased cost of longer warranted

water heaters represents little more than an insurance premium and has nothing to do with quality or reliability.

A. O. Smith strongly recommends that the proposed minimum warranty requirements for Energy Star water heaters be eliminated.

In order for Energy Star to be successful, it must transform the water heater market which is almost exclusively focused on lowest initial cost to a market that recognizes the value of higher efficiency water heaters.

Currently, the water heater market is dominated by consumers who do not plan for their water heater replacements: the predominant call for action is when their water heater fails. Therefore, at the moment when we would like the consumer to consider energy efficiency, they are driven by the more dominant issues of who can replace it quickly and within budget. Hence, the vast majority of the water heaters sold are at the Federally mandated minimum efficiency level because of their low cost and ready availability. If an Energy Star program for water heaters is to be successful, it most transform this market.

At the Consortium for Energy Efficiency meeting in September, all stakeholders recognized the value of being able to promote Energy Star water heating to the entire water heater market. A "buy an Energy Star water heater" campaign could be endorsed and supported by all segments of the water heater community since it would apply to all water heater types and would not favor a specific segment of the water heater market.

To be successful (i.e. to change the market), this program must include:

1. All types of water heaters must have Energy Star models.
2. The Energy Star models must be within reasonable price range of the minimum efficiency models which dominate the market today.
3. A consumer should be able to buy an Energy Star model no matter the size of water heater needed.

Unfortunately, the second draft criteria for Energy Star water heaters run counter to this approach in a number of significant ways.

1. *Electric resistance water heating is excluded.* More than 50% of the water heater market is electric storage water heaters and their market share is growing. Excluding electric resistance water heaters from an Energy Star program means that more than 50% of all water heater consumers will be unable to purchase Energy Star water heaters. Hence, any broad-based Energy Star promotional campaign for water heaters will be impossible to develop.

We recognize that a high performance electric storage water heater represents a modest energy savings (~5%) for each consumer. However, this savings represents a payback of less than two years (by DOE's own numbers as presented in the First Draft Criteria).

Furthermore, since approximately 5 million electric storage water heaters are sold each year, a modest increase in their efficiency will save the Nation a substantial amount of energy. In fact, if just 20% of the electric storage market is converted annually, the Nation would save 257 MWhr in the first year and each subsequent year, the savings would increase by that number until the installed base of about 50 million water heaters is replaced. Eventually, replacing 20% of the 50 million installed electric water heaters would represent a national annual savings of 2.57 GWhrs. All of this can be done with existing products at a good value to the consumer.

If a "buy an Energy Star water heater" is truly successful, many individuals will proactively replace their older water heaters and the actual energy savings will be much larger since pre-2004 water heaters are less efficient than current units.

We believe this has the potential for a very large adoption rate which will save our nation huge amounts of energy and will set the stage for wide-spread adoption of heat pump water heaters when they become readily available.

A. O. Smith strongly recommends that electric resistance storage water heaters be included in the Energy Star program at a minimum EF level of 0.95.

2. *Energy Star models must be within a reasonable financial reach for the average consumer.* By DOE's own analysis, the Second Draft Criteria for gas storage water heaters of 0.65 will increase the cost to the consumer $350 (a 40% total price increase over a base model) with a payback of about 8 years. It is the judgment of our marketing experts, that such a cost increase will put Energy Star models out of reach for most gas storage water heater consumers. They do not believe that an Energy Star level of 0.65 will significantly change the purchasing decision of gas storage water heater consumers. As such, the Energy Star program for gas storage may be a technical success with no significant impact on the market.

If, however, the Energy Star level for gas storage water heaters is at 0.62, DOE's numbers indicate a purchase price increase of only $65 (a 8% total price increase over a base model) and a payback of approximately 2.5 years. At this level, there is a real chance that the consumers will elect buy the Energy Star models and transform the gas storage water heater market which represents about 4 million water heaters per year. Again, a modest energy savings for the individuals at a good value but more importantly, an opportunity to transform the water heater market and distribution channels to focus on Energy Star and not just on retail price.

It should also be noted that most of the 0.65 storage water heaters on the market today are power vented units. These units will require additional installation costs since they must have electric power and may need upgraded venting systems. We believe that there is likely to be considerable consumer resistance to this additional cost and complexity.

A. O. Smith believes that in order to transform the gas storage water heater market, the Energy Star level for gas storage water heaters should be set at a minimum EF of 0.62.

3. *A consumer should be able to purchase an Energy Star model no matter what water heater size is needed.* The FHR rating requirement listed in the Second Draft Criteria will prevent consumers of small water heaters from being able to purchase small but efficient Energy Star models and it adds unnecessary complexity to the Energy Star program. Similarly, owners of large homes will not be able to purchase large Energy Star heaters because all EPAct heaters are excluded from the Second Draft Criteria. This size sensitive program is certainly not consistent with other Energy Star programs…one can buy small and large Energy Star televisions, light bulbs, dishwashers, etc. This is particularly troublesome because the most efficient water heaters being installed in homes today are EPAct condensing heaters which have a proven track record of performance and cost effectiveness. Under the current proposal, these water heaters would be excluded from an Energy Star designation!

A. O. Smith strongly believes that EPAct heaters with inputs of less than 200,000 BTU/hr. should be included in the Energy Star program. In addition, we believe that the proposed FHR requirement is inappropriate and should be dropped.

Finally, one additional point needs to be added. It is vital that all water heaters sold in this country comply with the many codes and regulations which have helped to provide the U.S. public with safe, reliable water heating appliances. **The Energy Star Criteria for Water Heaters should include the requirement that all Energy Star water heaters should comply with all appropriate performance and safety codes and standards and must be accredited as such.**

The A. O. Smith positions stated above are largely the same as the input we have given in writing on two occasions in the past and have not been adequately addressed. To summarize, the A. O. Smith positions *in order of priority:*

1. Minimum warranty requirements are inappropriate and should not be included.
2. Energy Star should recognize electric resistance storage water heaters at the 0.95 EF level.
3. EPAct water heaters intended for residential use should be included in the Energy Star program.
4. Energy Star for gas storage water heaters should be at the 0.62 EF level.
5. The FHR requirements should be dropped.
6. Energy Star should require that all Energy Star water heaters comply with all appropriate performance and safety codes and standards and must be accredited as such.

Finally, A. O. Smith requests an additional public hearing on the proposed Energy Star Criteria for Water Heaters. This request is based on our observation that many of the inputs from the stakeholders have not been adequately addressed. In fact, we are struck by the minimal differences between the two drafts of the Energy Star Criteria even though substantial input from stakeholders has been received by DOE, much of which is consistent with the A.O. Smith positions documented above.

If you have any questions regarding the A. O. Smith positions, please contact either Dr. William R. Hoover at 414-731-6346 (whoover@aosmith.com) or Mr. Mike Parker, V.P. Marketing at 615-792-6389 (mparker@hotwater.com).

Thank you,

Ajita Rajendra
President
A. O. Smith Water Products Company