

A. O. Smith Input

Energy Star Water Heater Stakeholders Meeting

Dr. William R. Hoover

A. O. Smith Corporate Technology Center

whoover@aosmith.com

414-731-6346



Energy Star for Water Heaters

- A. O. Smith supports an Energy Star program for residential water heaters.
- An appropriate Energy Star program for residential water heaters can:
 - Influence consumer behavior
 - Individual energy savings
 - National energy savings
 - Drive new product development

A. O. Smith Input

- Minimum Warranty
- Prescriptive Definitions
- EPACT heaters
- Electric Resistance Storage Water Heaters
- Gas Storage Water Heaters
- Whole-Home Tankless Water Heaters
- Minimum FHR Requirement

Minimum Warranty

- A minimum warranty does little to insure quality or performance.
 - *Inappropriate warranties may jeopardize the Energy Star reputation*
- A minimum warranty requirement would tend to promulgate the unfortunate warranty-based competition in the current retail marketplace rather than focusing on performance or value.
- A warranty is just insurance for which the consumer must pay.
- **A. O. Smith believes that the minimum warranty requirement should be dropped.**

Prescriptive Definitions

- Product categories should be based on performance and hot water delivery characteristics.
 - Not on design features or devices used to achieve the Energy Star designation.
 - Terms such as *helical heat exchanger* and *power burner* should not be used.

Prescriptive Definitions

- Product categories should be based on performance and hot water delivery characteristics.
- Prescriptive definitions inhibit the development of new ideas and designs which do not follow the prescriptions.
- Leave intact the opportunity and incentive for manufacturers to invent new ways to delivery hot water using less energy.
- **A. O. Smith believes that product category descriptions should state only the desired performance levels and characteristics.**

EPACT heaters

- The draft Energy Star criteria only apply to water heaters covered by NAECA and exclude those covered by EPACT.
- There are a number of EPACT condensing water heaters which are used in residential applications and have very high thermal efficiencies (>90%).
- The proposed exclusion of these highly efficient water heaters from the Energy Star designation is inappropriate.

EPACT heaters

- **A. O. Smith recommends that EPACT water heaters be included in the criteria for condensing gas water heaters by stating the minimum energy efficiency level to be an Energy Factor of 0.80 or a Thermal Efficiency of 90%.**

Electric Resistance Storage Water Heaters

- We disagree with the exclusion of electric storage water heaters from the Energy Star program.
- A 0.95 water heater saves 257 kWh/year over a 0.90 water heater.
 - No additional installation cost
 - Nominal equipment cost increase
- On an individual basis, this savings is modest, but on a national scale, it could be significant.

Electric Resistance Storage Water Heaters

- The 257 kWh/yr savings is about 1/10th the savings from an Energy Star HPWH
 - But the market penetration could be more than a hundred times larger!
- There are over 4.5 million residential electric water heaters sold in the U.S. each year. If 1 million of these shifted to a .95 EF model, the savings would be 275 million kWh/yr!
- **A.O. Smith believes that the most practical means to save energy with electric water heating is to encourage the use of 0.95 water heaters through an Energy Star designation.**

Gas Storage Water Heaters

- A. O. Smith believes that high efficiency conventional gas storage water heaters should be included in Energy Star.
- DOE proposal was based on a comparison of 0.62 units with 0.58 units.
 - Ignores the fact that there are many heaters currently offered with Energy Factors in the 0.65 to 0.67 range.
 - A 0.67 water heater saves 75% of the energy saved by “Advanced Non-Condensing Gas Storage” heaters which do not currently exist at any price.

Gas Storage Water Heaters

- A. O. Smith believes a substantial opportunity to save substantial energy on a national scale is being overlooked.
- **A. O. Smith recommends that gas storage water heaters with EF's of 0.65 or greater be included in the Energy Star program.**

Whole-Home Tankless Water Heaters

- Traditionally, Energy Star has been reserved for the “cream of the crop” appliances.
- Current proposal would include most tankless water heaters currently on the market.
 - Based on the DOE EF test which does not represent performance in actual residential usage.

Whole-Home Tankless Water Heaters

- The CEC is considering degrading the EF for tankless heaters in the next version of their Title 24 regulation.
 - Based on studies by the Davis Energy Group
- In addition, these studies (and others) have shown that tankless water heaters increase water usage:
 - By design
 - By usage patterns

Whole-Home Tankless Water Heaters

- A. O. Smith believes that customers perceive that Energy Star appliances should have the latest safety and environmental technology.
 - Gas tankless heaters have less stringent emissions requirements and are not required to be flammable vapor ignition resistant.
 - Will this dilute the value of the Energy Star brand?

Whole-Home Tankless Water Heaters

- **A. O. Smith believes that the wholesale inclusion of whole-home gas tankless water heaters based solely on the EF values represents a significant risk to the Energy Star brand and may lead to higher water usage, lower than expected gas savings and more atmospheric emissions while costing the consumer a substantial installed cost premium.**

Minimum FHR Requirement

- A minimum FHR of 50 gallons is too low to insure proper performance in a traditional home.
- National Plumbing Code requires 67 gallons for a 3 BR home with 2 baths.
- **A. O. Smith believes that the minimum FHR criteria should be raised to be consistent with the National Plumbing Code.**

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