



**EDISON ELECTRIC  
INSTITUTE**

April 6, 2006

Ms. Brenda Edwards-Jones  
U.S. Department of Energy  
Building Technologies Program  
Mailstop EE-2J  
Room 1J-108  
1000 Independence Avenue SW  
Washington, DC 20585-0121

Re: Docket No. EE-RM-PET-100 (California Preemption Exemption Petition)

Dear Ms. Edwards-Jones:

This letter is written in reference to the California petition for preemption from federal appliance energy efficiency standards.

EEI is the association of the United States investor-owned electric utilities, combination gas & electric utilities, industry affiliates, and associates worldwide. Its U.S. members serve 97 percent of all customers served by the investor-owned segment of the industry. They generate approximately 60 percent of all the electricity generated by electric utilities in the country and service 71 percent of all ultimate customers in the nation.

The following comments have been reviewed by EEI member companies. EEI member companies may also provide separate comments under other separate submissions.

**Summary**

After a review of the California petition, EEI believes that the petition should be rejected for the following reasons:

- 1) Such a state-only standard will have a small impact on the use of water in the state of California.
- 2) The standard would place an unfair burden on manufacturers, and will likely increase the costs of high-efficiency clothes washers to all consumers.
- 3) The standard would place an unfair burden on California consumers, especially since the costs are understated and the savings are overstated in the petition.

- 4) Federal standards that went into effect in January 2004 have already reduced water usage from residential clothes washers. Standards that go into effect in January 2007 will reduce water and energy usage even more, which are not recognized by the petition.
- 5) The California market for clothes washers has been transformed over the past 8 years due to utility rebates, water agency rebates, the Energy Star program, and other consumer education programs. Federal tax credits for clothes washer manufacturers in 2006 and 2007, along with increased funding for California utility rebate programs for the years 2006 through 2008, will accelerate the trend. Therefore, water savings claimed in the petition are overstated, since the “baseline” unit purchased in 2010 is likely to use less water than shown in the petition.
- 6) Laws of unintended consequences. Such a standard could lead to more consumers buying lower cost clothes washers out of state or over the Internet, thereby depriving California retailers of sales, and the state (and some cities) of sales tax revenue.
- 7) Market response. The Water Factor is a gallon per cubic foot of clothes washer capacity rating. Over the past 20 years, the size of clothes washers, in terms of shipment weighted average cubic feet of capacity, has increased by 20%, according to AHAM data. Such a state only standard could lead to larger units being shipped to California for product utility reasons, which would increase water usage compared to units being shipped elsewhere.

## **Comments on Petition**

### *Minimal Impacts*

Based on the information provided (and not provided) in the petition, the use of water in California may be called “unusual” compared to other states for the following reasons:

- the amount of water used for agricultural reasons, compared to other states;
- the large amount of water imported from other neighboring states;
- the large number of homes with hot tubs, spas, swimming pools, and other luxury uses of water, compared to other states.

In terms of the last item, according to the Association of Pool & Spa Professionals (APSP), California leads the nation in the number of residential in-ground pools (over 1.025 million in 2004) and residential hot tubs and spas (over 1.506 million in 2004). According to the Energy Information Administration Residential Energy Consumption Survey 2001, there were 7.9 million single-family homes (6.9 million detached and 1.0 million attached) in California in 2001. For in-ground pools, this corresponds to a saturation rate of 14.85% (if one assumes they are only installed with detached homes).

For hot tubs and spas, the estimated saturation rate would be 19.06% (assuming that they could be installed in all types of single-family homes).

However, a separate clothes washer standard will not solve the supply problems as detailed in the petition, and will only have a small impact on water demand – nowhere near enough to solve California’s future water problems.

In the petition, it is stated that “Clothes washers account for about 22 percent of the water use in the typical home.” It also states that “the 6.0 WF standards will save approximately 11 percent of a typical household’s water use.” This would correspond to a 50% reduction in water use by the clothes washer after the standard takes effect. The eventual savings, according to the petition “will be approximately 204,387 acre-feet per year.” This is equal to 0.2 million acre-feet (maf) per year. (EEI believes that these values are overstated, as shown later in this letter).

However, if these values are assumed to be correct, that would mean that residential clothes washers would use about 0.4 maf per year in California in 2025.

In 1995, according to Table 1 of the petition, California used 79.5 million-acre-feet of water per year. Even if residential clothes washers used about 0.4 maf in that year (the 2025 figure, not adjusted for a lower population), that corresponded to 0.5% of the total state usage (and 4.55% of the “urban” usage). Other “urban” uses accounted for 8.4 maf, or 10.57% of the total state usage. Agricultural usage was 33.8 maf, or 42.5% of the total state usage, and “environmental” use accounted for 36.9 maf, or 46.4% of the total state usage.

Even if the petition is successful and the full impacts could be realized by 2020, the 0.2 maf per year savings would correspond to 0.25% of the 80.5 maf per year of projected usage (under the “existing programs” scenario). However, since the state is legally required to reduce the amount it takes from the Colorado River from 5.5 maf to 4.4 maf by 2015, the state would have to perform other actions to compensate for the 0.9 maf shortfall.

Table 1 of the petition also indicates that “urban” and “agricultural” use of water actually *increases* during a drought year. In fact, during a drought that could occur in 2020, “urban” water usage is projected by 0.3 or 0.4 maf – or by 50 to 100% more than the savings provided by a residential clothes washer standard. The petition should explain why water usage increases among most sectors during a time of severe shortage.

### Consumer Impacts

If the petition were successful, there would be an increased and unfair burden placed on California consumers. In January 2001, when DOE published the final rule for clothes washers, it estimated that the Tier 1 standard that went into effect in 2004 would increase clothes washer prices by an average of \$53. DOE also estimated that Tier 2 standards

that take effect in 2007 would increase average prices by \$249 – a 59% price increase over a baseline unit. A separate California standard would increase prices even more. This type of price shock could persuade some consumers to repair rather than replace an older clothes washer, which would result in more water and energy usage by those consumers.

In addition, EEI questions some of the economic assumptions shown in the petition. In Table 3, the petitioners show a “base case” unit cost of \$550 and a cost of a 6.0 Water Factor unit being \$680.18, for an incremental cost of \$130.18. EEI believes that this value is vastly understated, based on the following market data:

In March 2006, *Consumer Reports* magazine published rankings and ratings of residential clothes washers. On its web site, the authors wrote “Lower prices have helped traditional top-loading washers outsell more-efficient front-loaders; you’ll find competent models that cost as little as \$300 or so.”

On the web site, *Consumer Reports* shows brand names, models, overall scores, test results, and features. In terms of prices, the range of prices for conventional top-loading models was \$300 to \$580, with 10 of 22 models priced at or below \$380. For high-efficiency top-loading models, the range in price was from \$800 to \$1,000 (for 3 models). For front-loading high-efficiency models, the price range was \$700 to \$1,600, with 12 of 19 models priced at or above \$1,000.

Even if an analysis just looked at the least costly top loading unit compared to the least costly high efficiency unit, the price differential is still around \$400, based on the *Consumer Reports* article, two years after Tier 1 standards have taken effect. Even at a front-loader price of \$600, the incremental cost of a high-efficiency unit is still \$300.

Using a more realistic increased first cost changes the savings quite dramatically. Table 3 of the petition estimates a total annual cost savings of \$21.52. At an increased first cost of \$300, the total net savings are -\$57.15, and the payback period is 13.94 years.

In addition, the water, electric, and gas savings in Table 3 are likely to be overstated for many consumers. The table assumes, as did DOE, that the typical consumer uses a clothes washer 392 times per year (or 7.5 times per week). While this may be true for larger families, many people use the clothes washer much less often. Also, DOE estimated water usage based on new federal standards in 2001 (and 392 cycles):

“Baseline unit”:	15,366 gallons per year (39.2 gallons per wash)
2004 Tier 1 unit:	13,798 gallons per year (35.2 gallons per wash)
2007 Tier 2 unit:	8,271 gallons per year (21.1 gallons per wash)

According to AHAM data, the shipment weighted average clothes washer in 2004 had a capacity of 3.05 cu ft. If this level stays constant through 2007, then based on the DOE 2001 estimate, the typical clothes washer in 2007 that meets federal efficiency standards

will have a water factor of 6.92 (21.1 gallons / 3.05 cubic feet), not 10.5 as shown in Table 3 of the petition.

This value is also more realistic as a baseline when Figure 2 of the petition is viewed. In California, Energy Star units (assumed to be mostly front loading units) had a 39% market share in late 2003. With federal tax credits and utility rebates, it is likely that the market share will increase to well over 40 or 50% by 2007 or 2010.

Using a baseline unit with a 6.92 Water Factor and a \$300 incremental cost (before rebates or tax credits), the revised savings for a 3.05 cubic foot unit are as follows:

Annual Water Savings:  $(21.1 - 18.3)$  gallons \* 392 cycles per year = 1,098 gallons/year  
(20.74% of the Table 3 estimate)

Water \$ Savings: 1,098 gallons/year \* \$0.0032/gallon = \$3.51

Electric kWh and cost savings =  $18 * 20.74\% = 3.7$  kWh/year \* \$0.115/kWh = \$0.43  
(assumed proportional to water savings)

Gas therm and cost savings =  $4 * 20.74\% = 0.83$  therms \* \$0.63/therm = \$0.52  
(assumed proportional to water savings)

For this analysis, based on current natural gas prices, it is likely that the cost of natural gas will be much closer to \$1.20 per therm. Therefore, the annual gas cost savings would be \$1.00, rather than \$0.63

Total \$ savings: \$3.51 (water) + \$0.43 (electric) + \$1.00 (gas) = \$4.94 per year

It should be noted that people who do much less laundry will have lower savings. For example, a consumer that only does 98 loads of laundry per year (about 2 loads per week) will save 25% of the amount of the person doing 392 loads, or \$1.24.

Based on an incremental cost of \$300, an annual savings of \$4.94 would result in a simple payback of 60.7 years for people who do nearly 8 loads of laundry per week. For people doing 1-2 loads of laundry per week, the simple payback is closer to 242 years.

Another factor to consider in terms of the energy savings is the introduction of “cold water for all clothes and linens” detergent that has been marketed by a major detergent manufacturer. This type of detergent can be used in current “baseline” top loader models. Assuming that this type of detergent will be available for high efficiency units, there will be no electric or gas hot water savings associated with this measure, which would increase the payback period and lower the net life cycle savings even further.

Also, in viewing Figure 5 of the petition, there are two points that stand out: there are considerably fewer models in the market with Water Factors at or below 6.0 WF, and the prices are significantly higher for the models shown. In addition, the graph does not

show how many manufacturers produce the lower Water Factor models. The fewer the number of manufacturers, the less competition there will likely be on prices. If only one or two manufacturers produce the lower Water Factor models, there may need to be an FTC or Justice Department investigation into competitive market effects in California.

Therefore, DOE should consider the economic impact on consumers that will be much more significant than shown in the petition.

#### *Manufacturer impacts*

Clothes washer manufacturers agreed to two tiers of energy efficiency in 2001. The first tier took effect in 2004, and the 2<sup>nd</sup> tier will take effect in January, 2007. The California standard would represent a state specific 3<sup>rd</sup> tier, with different design and cost considerations. This factor is not considered in the petition.

The petition also does not address the issues that will raise prices even further. For example, will manufacturers be required to perform extra tests for water consumption, solely for the California market? Will manufacturers have to use special labels? Also, what kind of impact will there be in losing economies of scale (by producing a “California only” model)? Will there be increased shipping and distribution costs?

#### *Laws of unintended consequences*

The petition does not discuss the possibility of consumers purchasing less expensive products out of state or over the Internet. It also does not discuss the cost of enforcement of a state specific standard on California taxpayers.

#### *Savings from Non-Regulatory Programs*

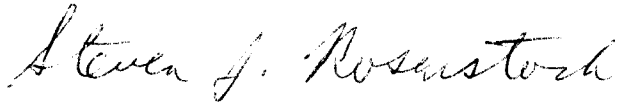
The petition discusses national savings from other non-regulatory programs that were estimated by DOE back in 2000. Table 8 shows the national results of national programs. The petition did not discuss the California specific non-regulatory programs that could provide water savings in the state of California. Other alternatives, such as California state tax credits to taxpayers or manufacturers, or California sales tax exemptions on water-efficient products, were not discussed in the petition.

#### *Water Supply*

In addition, there is no discussion about the possibility of increased desalination of water from the Pacific Ocean. All western coastal parts of California have access to this water resource. Other countries in the world rely primarily on desalination to meet urban and agricultural needs.

Thank you for your review of our letter. Please let us know if you have any questions or comments. EEI looks forward to the DOE reply to the California petition.

Sincerely,

A handwritten signature in cursive script that reads "Steven J. Rosenstock".

Steven Rosenstock, P.E.  
Edison Electric Institute

cc: Rick Tempchin, EEI  
Michael McGrath, EEI