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EDISON ELECTRIC INSTITUTE

January 29, 2008

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

RE: Advanced Notice of Proposed Rulemaking, Energy Conservation Standards for Certain Consumer Products (Dishwashers, Dehumidifiers, Electric and Gas Kitchen Ranges and Ovens, and Microwave Ovens) and for Certain Commercial and Industrial Equipment (Commercial Clothes Washers)
Docket No. EE-2006-STD-0127

Dear Ms. Edward-Jones:

The Edison Electric Institute (EEI) appreciates the opportunity to submit comments regarding the Department's Advanced Notice of Proposed Rulemaking (ANOPR) of Energy Conservation Standards for Consumer and Commercial equipment (described above), which was published at 72 Fed. Reg. 64432 (November 15, 2007) and the workshop which was held on December 13, 2007.

EEI is the association of the U.S. shareholder-owned electric companies, international affiliates and industry associates worldwide. Our U.S. members serve over 97 percent of all customers served by the shareholder-owned segment of the industry. They service 71% of all ultimate customers in the United States. Many of our members are combination electric/gas companies, and provide efficiency services for both fuel types.

These comments will (1) state our views on the ANOPR document, (2) address some of the important topics raised in the December 13, 2007 Workshop and (3) respond to specific issues on which the Department has sought comment.

EEI believes that energy efficiency has a very important role in our Nation's energy strategy. Our Board of Directors has approved a new EEI Energy Efficiency Initiative. We believe new and advanced technologies and controls provide important new tools to implement efficiency measures and achieve energy savings.

We are pleased that DOE is moving forward with this appliance rulemaking in a timely manner. Due to the passage of the Energy Independence and Security Act of 2007, which mandated updated standards for dishwashers and dehumidifiers, DOE can now concentrate on completing the rulemaking for residential cooking equipment and commercial clothes washers.

General Comments / Technical Comments on the ANOPR and Workshop

1) In the workshop handout slides (#21), DOE showed technologies that were unable to be analyzed for dishwashers, dehumidifiers, cooking products, and commercial clothes washers. For the last three products, one of the technologies excluded was low standby loss controls. With the passage of EISA 2007, DOE may be required to include these technologies in the analysis, since the agency is required to analyze standby energy usage for covered products.

2) In terms of the standby power used by microwave ovens, it appears from the data presented at the workshop that the power used for clocks (and sensors in some cases) in microwave oven uses anywhere from 1.5 to about 5.8 Watts, with ovens not having cooking sensors using 2 Watts (or 6.82 Btus/hr, an estimated average) and ovens with cooking sensors using about 4 Watts (13.65 Btus/hr) on average. EEI would not consider these to be "standby" since they are performing functions that are useful and helpful to consumers. It also appears that DOE did extensive tests on microwave ovens in terms of standby electric usage.

DOE also shows an estimated annual energy usage of 131 kWh for microwave ovens. Assuming 8600 hours of standby time for microwave ovens, a unit with 2 Watts of "standby power" would use 17.2 kWh for the clock and/or other displays, for a standby contribution of about 13.1%.

On the gas side, for gas cooktops, the DOE presentations show an annual energy usage of 2.7 Million Btu's per year, with standby energy usage from pilot lights consuming 2.0 Million Btu's per year, or **74.1%** of the total energy usage. Assuming 8000 hours of standby hours per year, this is equal to 250 Btus/hr (73.2 Watts) of standby energy usage, which is equivalent to the standby energy usage of 18.3 to 36.6 microwave ovens.

For gas standard ovens, the DOE presentations show an annual energy usage of 1.8 Million Btu's per year, with standby energy usage from pilot lights consuming 1.0 Million Btu's per year, or **55.6%** of the total energy usage. Assuming 8000 hours of standby hours per year, this is equal to 125 Btus/hr (36.6 Watts) of standby energy usage, which is equivalent to the standby energy usage of 9.15 to 18.3 microwave ovens.

In terms of costs to consumers, standby electric usage in microwave ovens will cost between $1.69 and $3.38 per year (based on 2 or 4 Watts of standby and DOE 2006 energy cost data shown in the workshop), while gas cooking equipment, using 1.0 Million Btu's or 2.0 Million Btu's will cost between $14.40 to $28.80 per year (using a weighted average cost of $14.40 per Million Btu, based on DOE 2006 data.

EEI would like to know if DOE is going to conduct extensive tests to analyze standby gas energy performance in representative gas cooking equipment, like it did with standby electric usage of microwave ovens, to determine the range of standby gas usage and the primary causes. DOE data clearly shows that standby energy usage of natural gas in gas cooking equipment is a much more significant energy and cost issue than the standby energy use of electricity, and should prioritize methods and analysis to reduce standby gas energy usage.

In terms of test procedure, DOE should conduct tests or research to see if the use of cooking sensors reduces overall cooking times. The sensors appear to use about 2 Watts, but if they work properly, they can reduce the amount of time a microwave oven is using anywhere from 650 to 1250 Watts. It is likely that the reduced cooking time will create energy savings that will be higher than the standby energy used by the cooking sensor, providing annual energy savings to consumers.

3) For the dishwasher and commercial clothes washer energy analysis, the water heating energy usage value should show the breakout of gas, propane, electric, and oil-fired water heaters that serve the washing machines. To show the units only as electric kWh is misleading and does not show the gas, oil, or propane savings that will occur from higher energy efficiency.

4) In terms of the life cycle cost subgroup analysis for cooking products, one workshop participant mentioned people that did not use electricity. In terms of the number of US citizens that do not use electricity, there are estimates of about 50,000 families that do not use electricity and may use natural gas or propane or kerosene or wood for cooking purposes. According to *EEI Statistical Yearbook* data, at the end of 2006, there were 122.08 Million

residential electric customers in the United States. Based on this data, about 0.04% of US households do not use electricity and 99.96% do. In terms of standards that would require electronic ignitions for gas cooking equipment to save a significant amount of energy, DOE could exempt those units that are being sold to people who do not have access to electricity, while setting standards for the 99.96% of the population that has access to electricity.

The subgroups described for the life cycle cost analysis are appropriate. DOE may want to identify the percentage of low income consumers that use gas cooking equipment with continuously burning pilot lights, and to describe the economic impacts of the cost of the wasted gas energy.

5) In terms of the utility impact analysis, the DOE analysis should show the change in natural gas production as well as electric generation, since higher efficiency for gas products and water heater energy savings will have a direct impact on the production of natural gas.

6) In terms of the environmental analysis, one of the workshop slides showed the output of the analysis would be "Estimate of national emission reductions of SO2, NOx, CO2, and Mercury." The ANOPR discusses the impact of federal legislation (1990 Clean Air Act and Amendments, Clean Air Interstate Rule, Clean Air Mercury Rule), but it does not project the impact of future legislation.

In terms of electric power generation emissions for CO2, S02, Mercury, and NOx, DOE should account for the rise in renewable portfolio standards and the possibility of an upcoming CO2 cap and trade program, which would reduce the amount of CO2 produced per kWh generated.

Federal legislation has reduced the amount of NOx, Mercury, and SO2 emissions over the past 36 years. According to the DOE Energy Information Administration's *Electric Power Annual 2006*, total electric industry SO2 emissions in 1993 were 14,472 thousand metric tons. Total NOx emissions in 1993 were 7,801 thousand metric tons. By 2005, those numbers had dropped significantly, to 10,340 metric tons of SO2 (a 28.6% reduction) and 3,961 thousand metric tons of NOx (a 49.2% reduction). This occurred while total US electric generation, according to the *EEI Statistical Yearbook*, rose from 3.197 Trillion kWh to 4.055 Trillion kWh (a 26.8% increase). NOx and SO2 emissions will continue to decline in the future, and DOE should account for this trend in the analysis.

Conclusion

EEI believes that DOE has done a thorough and admirable job with the ANOPR document and workshop. EEI hopes that DOE will consider our suggestions for the upcoming Notice of Proposed Rule (NOPR) analysis, and appreciates the fact that DOE is working to meet the EPACT 2005 deadlines for these products.

EEI sincerely appreciates the opportunity to submit these comments.

Respectfully submitted,

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cc: Rick Tempchin, EEI
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