



Together We Can Change  
National Markets

January 17, 2006

Richard Karney  
ENERGY STAR Program Manager  
US Department of Energy  
1000 Independence Avenue SW  
EE2J  
Washington, DC 20585

Dear Rich:

On behalf of CEE, I am submitting the following comments on the future ENERGY STAR dishwasher criteria. These comments were developed by the CEE Appliance Committee (Committee) in response to the Final Draft of the ENERGY STAR Program Requirements for Dishwashers issued on December 20, 2006. The list of organizations at the end of the letter have chosen to indicate their support for these comments.

### **1. Energy Factor**

With regard to the Energy Factor (EF) component of the ENERGY STAR dishwasher criteria, CEE would like to join many of the major dishwasher manufacturers in continuing to support the 0.65 EF level. As you mention in your letter announcing the Final Draft, this level currently constitutes approximately 15 percent of available products, which is appropriately stringent given a January 2007 implementation date. CEE's Tier 1 performance specification, which requires a 0.62 EF, will be reviewed this year giving consideration to the possibility of alignment with the 2007 ENERGY STAR level.

### **2. Effective Date**

We also support the January 1, 2007 effective date for the new ENERGY STAR specification. This date will provide considerable time for manufacturers to adapt to a new ENERGY STAR level.

### **3. Expansion of ENERGY STAR Scope to Include Compact Dishwashers**

Given the support of two manufacturers, Whirlpool and Fisher & Paykel, CEE would like to tentatively support the inclusion of compact dishwashers in the ENERGY STAR dishwasher specification. We expect that the market for compacts will grow, and some Committee members have already seen increased interest in these models in their programs.

However, we have some concerns about the lack of information provided on the compact dishwasher market and technology, specifically the analysis behind the proposed 0.88 EF requirement. In particular, CEE is interested to learn why the 0.88 EF level was chosen, beyond the fact that it closely mirrors the percentage improvement for standard models (approximately 42 percent better). We are especially interested in information about model availability and sales

at this level, and the technological potential of compact models. If the analysis of such data supported the recommended levels, our ability to support the level would be improved.

CEE is also interested in the answer to the following questions in an effort to inform future support for the inclusion of compact dishwashers in the program:

- How large is the total market for compact dishwashers?
- Are there limitations of the existing test procedure that call into question the results for compact units?
- What is the relative value of investing DOE/ENERGY STAR program resources in the compact market versus other opportunities?
- What are the potential per unit and national aggregate energy savings associated with incorporating compact units, separate from the total savings expected to be garnered from standard and compact models combined given by DOE?

#### **4. Standby Power**

As in all of CEE's comments during the ENERGY STAR specification revision process, we continue to recommend that DOE incorporate a 1 W standby power component into the ENERGY STAR criteria for dishwashers. CEE agrees with the comment made by the Association of Home Appliance Manufacturers (AHAM) that the best way to incorporate standby power is through the creation of a maximum annual kWh metric that would allow manufacturers the flexibility to innovate while meeting the standby power target. The inclusion of an annual kWh metric would also align the ENERGY STAR specification with the EnergyGuide label, which lists energy use using this metric.

CEE continues to be concerned that dishwashers' standby power use may increase over time, even as they are becoming more efficient according to their EF. This was the reason that CEE elected to incorporate a 1 W standby power component in the form of a maximum annual kWh requirement in CEE's own revised dishwasher specification. When the specification was set, this maximum kWh component did not impact qualification of any models; it was merely a stopgap against potential increases in standby power use. However, there are currently 31 dishwashers that meet the EF component of the CEE specification have been prevented from qualifying due to poor standby performance. Therefore, though all models at 0.65 EF currently also meet the 339 maximum annual kWh requirement that we are proposing, this may not always be the case.

It is our understanding that the average dishwasher is in standby mode approximately 8,500 hours per year. Therefore, to arrive at the maximum annual kWh, we recommend that 8.5 kWh (1 W @ 8,500 hours) be added to the annual kWh associated with 0.65 EF. This yields a final kWh allowance of 339, as noted in the proposed criteria below. Though we only tentatively support the inclusion of compacts in the ENERGY STAR specification, and require further information for its full support, the table below also includes a similar kWh allowance of 252 for the 0.88 EF level.

## CEE Proposal for ENERGY STAR Dishwasher Criteria

	Energy Factor (EF)	Maximum Annual kWh
Standard Dishwashers	0.65	339
Compact Dishwashers	0.88	252

### 5. Water

CEE agrees with DOE's decision to gather data to inform the potential future inclusion of a water criterion in the ENERGY STAR dishwasher specification. To this end, we recommend that DOE begin collection of the following data immediately:

- The correlation coefficient on the relationship between water use and energy use
- A scatter plot of currently available dishwashers (with no reference to manufacturer or model number) that demonstrates the extent of variation in water performance at given EF levels

In order to ensure an accurate representation of the relationship between water and energy in high-efficiency dishwashers, we suggest DOE limit its data collection to models above 0.65 EF, as that is the current proposed ENERGY STAR level.

Given that the ENERGY STAR label could in the future incorporate water efficiency for selected products, we also suggest that DOE require, or at least encourage, manufacturers to begin submitting dishwasher water use data in addition to the other information (e.g., kWh/year, EF, etc.) they already submit to ENERGY STAR. The Committee recommends that DOE work with industry on a long-term effort to cross reference this data with sales information, which would yield information on sales-weighted water use of dishwashers. This would provide a useful baseline for water and energy efficiency programs.

### 6. Pre-Rinse Education

We commend DOE in its decision to begin research for a pre-rinse education campaign to be launched during 2006-2007, and agree that this effort is very important to ensure the energy and water savings that the ENERGY STAR specification promises. We suggest that DOE include in its efforts research into consumer behavior prior to any campaign and predictions on energy and water savings possible with the modification of this behavior. CEE looks forward to hearing about the results of DOE's investigations and campaign.

### 7. Performance Testing

Performance testing is another area in which CEE is very interested. While we support DOE's decision to exclude a performance criterion for dishwashers from the ENERGY STAR specification at this time, we agree that the idea merits further investigation. Reviewing AHAM's test procedure and identifying potential benefits and barriers for its use within ENERGY STAR, as suggested in DOE's letter announcing the most recent draft of the specification, seems to be a logical starting place.

We also recommend that DOE begin tracking consumer complaints about the performance of ENERGY STAR-qualified dishwashers as another first step. This data will be most useful if it

can be cross referenced against industry-wide averages, and we recommend DOE pursue such information. This documentation would provide DOE with data on which to base a future decision regarding whether to include performance testing.

## **8. Savings Estimates**

The Committee noticed that in the savings estimates given in conjunction with the specification draft, DOE seemed to have used the federal standard (0.46 EF) as a baseline. Given the very high penetration of ENERGY STAR dishwashers, that is the high percentage of dishwashers above 0.58 EF, calculating savings from a 0.46 EF baseline may result in a significant overestimate. Therefore, the Committee suggests that DOE provide more realistic savings estimates to justify the proposed ENERGY STAR level, or at least justify the use of the federal standard as a baseline. The Committee is particularly concerned because these savings estimates are often factored into efficiency program estimates, and are therefore meaningful to CEE members.

## **9. Miscellaneous**

On the second page of the ENERGY STAR Criteria for Dishwashers, the last sentence in the paragraph next to bullet number two reads “Only standard sized dishwashers are eligible for the ENERGY STAR dishwasher qualification.” The Committee presumes this to be a mistake and suggests the removal of this sentence.

Thank you again for the opportunity to comment. The Committee looks forward to the release of the final criteria in the next few months. If you have any questions about these comments, please direct them to Rebecca Foster, CEE Senior Residential Program Manager at (617) 589-3949 ext. 207.

Sincerely,



Marc Hoffman  
Executive Director

## **Supporting Organizations**

Energy Trust of Oregon  
Long Island Power Authority  
National Grid  
New York State Energy Research & Development Authority  
Northeast Energy Efficiency Partnerships  
Northwest Energy Efficiency Alliance  
Pacific Gas & Electric  
PacifiCorp  
Sacramento Municipal Utility District  
Western Massachusetts Electric Company  
Wisconsin Division of Energy