July 8, 2005

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Dear Rich:

Thank you for the opportunity to provide comments on the Market Impact Analysis on the Potential Revision of the ENERGY STAR Criteria for Dishwashers. These comments, which are organized to respond to the Key Market Indicators in the Market Impact Analysis, were developed based on CEE Appliance Committee (Committee) discussions and are supported by the individual organizations listed below.

As you may be aware, CEE recently completed a revision of its dishwasher specification, which is described below. This specification is part of the Super-Efficient Home Appliance Initiative (SEHA), which aims to increase the sale and market penetration of “super-efficient” appliances while contributing to the increased sale and market penetration of ENERGY STAR appliances. When possible, the tiers are structured so that ENERGY STAR levels represent the first tier. The second tier is generally set beyond ENERGY STAR such that there is a modest amount of available product, and is intended to provide a target for the next generation of ENERGY STAR products.

In mid June 2005, the CEE Board of Directors met to discuss the proposed CEE dishwasher specification levels that were developed by the Appliance Committee over six months of research and meetings. In a unanimous decision, the Board voted to adopt the proposed levels. The specification includes an Energy Factor (EF) component and a Maximum kWh/year component, which is intended to promote standby power usage of 1W or less. (See the standby power heading for more information on this topic.) The new CEE specification, presented below, will take effect on January 1, 2006.

**2006 CEE Dishwasher Specification**

<table>
<thead>
<tr>
<th>CEE Tier</th>
<th>Energy Factor</th>
<th>Maximum kWh/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>0.62</td>
<td>355</td>
</tr>
<tr>
<td>Tier 2</td>
<td>0.68</td>
<td>325</td>
</tr>
</tbody>
</table>

The Committee urges DOE to consider the future CEE Tier 1 as a minimum starting point for discussions on the ENERGY STAR dishwasher criteria.
Dishwasher Market Share

Sales of ENERGY STAR Models
As the Department of Energy (DOE) Market Impact Analysis document shows, the growth in sales of dishwashers meeting the current ENERGY STAR specification from 1998 to 2004 has been significant, rising to over 85% in late 2004. These data demonstrate the need for a revision of the specification in a timely manner to an appropriately stringent level. To ensure that the ENERGY STAR label does not lose its ability to differentiate superior energy efficiency, the Committee urges DOE to expedite the revision process and to consider the 2006 CEE Tier 1 as a minimum starting point for its considerations.

Sales of Models Above ENERGY STAR
While the analysis DOE provided demonstrates the large percentage of sales at the current ENERGY STAR level, efficiency program data offers an opportunity to see how the sales are distributed above 0.58 EF. Both the Northwest Energy Efficiency Alliance and Pacific Gas & Electric submitted information for these analyses.

Data from the NW Alliance encompassed both a Puget Sound Energy (PSE) rebate program and the Oregon Department of Energy tax credit program. The data from PSE are from 2004, and the ODOE data are from 2003. The PSE and ODOE data are shown below. While the majority of rebates and tax credits were given for models between 0.58 – 0.60 EF, the chart demonstrates significant program activity in the ranges of 0.61 – 0.64 EF and 0.65 EF and above.
A total of over 27,000 PG&E dishwasher rebates from 2003 are reflected in Chart 4. Spikes in rebates are evident at the following EF levels: 0.58, 0.61, 0.62, and 0.66.
The data from the Northwest and California demonstrate that, while obvious growth has occurred at the 0.58 EF level based on the current ENERGY STAR criteria, manufacturers have already expended resources at EF levels well beyond this baseline and have paved the way for a significant improvement in EF within the next ENERGY STAR criteria.

**Manufacturer Impact**

While the data above demonstrate that there are many products being sold at and above the current ENERGY STAR criteria, it is also important to analyze whether products are available from a wide range of manufacturers, as has been done in Table 1 of the DOE analysis document. It is interesting to note that with the exception of three manufacturers, all of the manufacturers currently participating in the ENERGY STAR program could still do so at the proposed 0.62 EF level without making any changes to their products. It is likely that given adequate lead time, the other manufacturers could also qualify at that level.

**Retail Price Trends**

During revision of the CEE dishwasher specification, the Appliance Committee considered average prices of products at many potential tier levels. Drawing conclusions regarding incremental cost associated with the tier levels was difficult to do, as data were varied. Data from Puget Sound Energy rebate program demonstrated very little incremental cost associated with EF levels of 0.62 and 0.68, while data from the
Northwest Power and Conservation Council indicated that some incremental cost was associated with significant advances in efficiency.

Due to these disparate data sources and the fact that improvements to efficiency are often bundled with other enhancements unrelated to efficiency, the Committee supports DOE’s use of the price-point sample to provide a representation of currently available products. The example provided in the analysis clearly shows that efficiency is not the only driver of retail price and that there are very high-efficiency models currently available that meet established price points.

**Water**

In revising its own specification, CEE considered including a water component for several reasons. The Committee considered that the inclusion of a water criterion would encourage partnership with water utilities, would prevent against the increase of water use by dishwashers in the future, and provide another level of differentiation for efficient models.

Based upon its research and on manufacturer comment, the Committee decided not to include a water requirement within the CEE specification. This decision was based upon the following information (which the Committee recognizes may have changed):

- Lack of a comprehensive data source on water use of dishwashers is a barrier. Though water use (in gallons/cycle) is measured by the test procedure, information is only currently available through the Oregon Department of Energy on the products that qualify for its specification.
- Interest in co-promotion of efficient dishwashers by water utilities seems to be low. The reason that most water utilities site for this is that dishwashers account for very little of a home’s water use (between 1.5 – 3% according to the American Water Works Association).
- It appears that any improvement or deterioration in water efficiency is captured by the Energy Factor metric, as between 80 – 90% of the energy used by a dishwasher is for water heating. As a result, dishwashers with high EF ratings generally have low water consumption.
- Manufacturers commented to CEE that the primary way that they would qualify for the proposed specification levels would be to reduce water and that a separate water requirement would be redundant.

The Committee recommends that DOE begin consideration of including a water component within the ENERGY STAR criteria by investigating whether the factors that influenced the CEE decision have changed in the last few months. Further, the Committee also recommends that DOE begin collection of information on water use of dishwashers (in gallons/cycle or another appropriate metric). This information could then be reviewed by the Department and other stakeholders either later in this criteria revision or in advance of the next dishwasher criteria revision.
Standby Power
The Committee is pleased to see that DOE has addressed standby power in its analysis document. The Committee supports DOE’s focus on standby power, and urges DOE to consider inclusion of a standby power component in the final dishwasher criteria.

Due to strong member interest at CEE, a 1 Watt standby power requirement is included in the 2006 CEE specification. Due to the fact that standby energy data are not currently available, this requirement takes the form of a maximum kWh/year component. The CEE Appliance Committee arrived at this level by taking the annual kWh associated with the Tier 1 and Tier 2 Energy Factor ratings, and adding on 8.5 kWh, which is equivalent to 1W standby power assuming 8500 standby hours per year. Thus, to qualify at CEE Tier 1 or Tier 2, products will have to meet both the Energy Factor component and the Maximum kWh/yr component.

The Committee created the standby component in terms of maximum kWh/year due to the lack of an available data source for watts. However, if DOE agrees to collect the data necessary to implement a standby power component using watts, the group has no objections.

During the CEE specification revision, the Committee also considered the question of setting the maximum total allowable qualified product usage in terms of kWh/year instead of EF. While a kWh-only metric has merit in terms of consumer simplicity, the Committee decided to maintain the EF component of the CEE specification, given that there is benefit to tying voluntary specifications to the metric used in federal minimum efficiency standards. The Committee recommends that DOE carefully weigh the pros and cons of a kWh-only metric before separating the ENERGY STAR criteria from the metric used in federal standards.

Thank you again for the opportunity to comment. If you have any questions about these comments, please direct them to Rebecca Foster, CEE Residential Program Manager at (617) 589-3949 ext. 207.

Sincerely,

Marc Hoffman
Executive Director

Supporting Organizations
Cape Light Compact
Efficiency Vermont
Energy Trust of Oregon
Long Island Power Authority
National Grid
New Jersey Clean Energy Program
Northeast Energy Efficiency Partnerships
Northeast Utilities
Northwest Energy Efficiency Alliance
New York State Energy Research and Development Authority
PacifiCorp
Pacific Gas & Electric
Sacramento Municipal Utility District
Seattle City Light
United Illuminating
Wisconsin Department of Energy