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Mr. Richard Karney  
Energy Star Program Manager  
U.S. Department of Energy  
Building Technologies Program  
1000 Independence Avenue, SW  
Washington, DC 20585-0121

***RE: Revised Energy Star Criteria for Dishwashers***

Dear Mr. Karney:

Maytag Corporation appreciates the opportunity to comment on the June 10, 2005, announcement for revising the Energy Star criteria for dishwashers. These comments supplement and explain Maytag's oral presentation made at the July 13 Department of Energy (DOE) stakeholders meeting.

After analyzing DOE's Market Impact Analysis and considering the future of the Energy Star Program, Maytag has concerns about how the criteria preserves the integrity of the Program and delivers true energy efficiency to consumers. Currently, the Program defines Energy Star dishwashers as those that run a single cycle, defined as the normal cycle, and operate at 0.58 Energy Factor (EF) or better. Given the heavy saturation of Energy Star dishwashers in the marketplace today, manufacturers have obviously determined how to optimize the cycle to meet the Energy Star criteria.

Consumers expect the Energy Star label to represent the preeminent energy efficient products. That's the strength of the brand today. However, Maytag argues that consumers' expectations are not being fully met with the current criteria and even future criteria over the long term. **Maytag, therefore, recommends, as we did at the July 13 meeting, that Energy Star consider a two-tiered approach to strengthening the energy efficiency criteria for dishwashers by establishing a higher EF effective in 2007 and evaluating multiple attributes, as described below, that could be added to the criteria beginning in 2009 and beyond.**

### ***I. Energy Factor of 0.65 in 2007***

**Our presentation on July 13 recommended an EF of 0.64 effective in 2007, but Maytag would support the GE proposal offered at that meeting of 0.65 effective in 2007. We believe**

this new level will not result in a loss of performance, but will require approximately 18 to 24 months to achieve the necessary engineering changes. At the DOE-proposed 0.62 EF, there are already 205 models that would meet the criteria, which means approximately 36% of the models would already be equipped to carry the Energy Star label. Raising the EF to 0.65 is only a 4.8% increase above the 0.62 level.

**In addition to the higher EF, Maytag also recommends for the long term that the criteria apply to units with minimum capacity of 12 AHAM place settings with serving dishes.** For units that hold less than 12, the EF should increase to 0.67. (Refer to the Association of Home Appliance Manufacturers' manual for Household Electric Dishwashers – ANSI/AHAM DW-1 2005 issued in May 2005 for descriptions of the place setting capacities.) Evaluating machines on a more equal plane in terms of capacity would ensure that smaller capacity machines couldn't achieve the more aggressive EF through a smaller unit. Also, full larger capacity machines cause consumers to run dishwashers less.

Energy Star should also recognize the category of compact dishwashers and set qualifying criteria for those machines, as suggested by Fisher Paykel at the July 13 meeting. There is no reason why those products shouldn't have the ability to carry the Energy Star label without being classified as a regular dishwasher unit.

As a side note, Maytag would also like to suggest that the DOE update its sampling of soils used in the DOE sensor-based energy test to reflect the AHAM/ANSI DW-1 2005 soils. Significant research and discussion was done to develop the new DW-1 ANSI/AHAM standard, and we encourage the DOE to adopt the same requirement. Doing so, we believe, will reflect average consumer use better, thereby more realistic energy use data as well. This may be out of the scope of Energy Star's revisions at this time, but it should be kept in mind and evaluated at the appropriate time.

## ***II. Standby Power Less Than 2 Watts***

**Standby power of Energy Star dishwashers should be less than two watts and should be included in the annual kWh per year.** Maytag recognizes that this requirement would not result in significant energy savings, but our intent is to reassure the consumer that once the machine is no longer running that the dishwasher is consuming just a minimal amount of energy. We do not support including the standby power calculation in the EF number, because of the complications that would cause with DOE's energy test procedure.

Maytag recognizes that this position is revised from the one Maytag presented at the July 13 meeting where we proposed a less than one-watt requirement. After listening to other stakeholders, we acknowledge that this is not a significant energy hog in the machine's operation. By increasing the requirement by a watt, we recognize that manufacturers will have greater versatility in designing their products to make highly efficient, yet unique machines. Whatever the design, Maytag believes that a two-watt qualification is very achievable.

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### **III. Maximum Water Usage of 1400 Gallons Annually**

Energy Star certainly is not tasked with monitoring water efficiency, but our experience with consumers has shown that Energy Star means “good for the environment.” Therefore, we urge the DOE to consider how *resource* efficient dishwashers are when applying the Energy Star brand criteria.

While Maytag recognizes that AHAM data presented at the July 13 stakeholder meeting appears to suggest that water efficiency correlates fairly closely with energy efficiency, Maytag believes that there is room for discussion on the subject. There is data available that certainly raises questions about the range of water use at various EF levels. We evaluated water use data available through the State of Oregon Department of Energy. (Similar data is also available from Natural Resources Canada.) Plotting the models listed on the website, we found a wide disparity of water use dots at the 0.61 EF and above. (See the chart attached to these comments.) The Rsq value for these models calculated to 24.9, with an adjusted Rsq value of 21.8. The P value was .001. The closer Rsq values are to 100, the better the factors are correlated. What this analysis shows is there is little correlation at all across models.

**To address this, Maytag recommends Energy Star adopt a water efficiency measurement of 1400 gallons used annually per machine any cycle with any option.** This would equate to approximately 6.5 gallons per cycle based on 215 cycles per year. However, it is important to note that this would include cycles run at normal and at maximum or heavy wash levels. Adopting this qualifier would tighten the range of water usage for all manufacturers and could lead to some manufacturers deciding not to brand their dishwashers Energy Star due to certain design constraints.

### **IV. Performance Standard Tied to AHAM DW-1 Score of 85 or Better**

**To address concerns that Maytag’s recommendations could have an adverse affect on the performance of dishwashers and thereby eradicate any benefit that the consumer could derive from higher efficiency machines, we recommend that Energy Star add a qualifier that dishwashers when running the Energy Star Cycle must meet a performance score of 85 or better as defined in the AHAM DW-1 2005 standard test, which is a performance test.** The scores range from 1 to 100, and we believe 85 assures consumers of satisfactory dishwasher performance.

This attribute would help ensure that the highest performing machines receive the Energy Star label and give Energy Star a platform for implementing a “No Pre-Wash” Campaign. Maytag has been a leader in communicating to consumers that they do not need to pre-wash their dishes, because the sensor technology available in most new dishwashers sufficiently identifies the dirt level on dishes and cleans accordingly. We recognize, however, that old habits are hard to break. Since pre-washing dishes can consume two to three times the amount of water a dishwasher uses in cleaning dishes, this campaign is desperately needed to help communities and the nation conserve water.

Maytag acknowledges that adding a performance qualifier to Energy Star criteria could lead to the necessity of third party testing to ensure compliance or, at a minimum, some type of self-policing. While third party testing is not inexpensive, we believe that it would give tremendous credence to a voluntary high efficiency program. Along with this, there would have to be penalties for non-compliance and effective enforcement to ensure the program has integrity.

## **V. Conclusion**

No doubt, you and others will take note that Maytag's comments diverge from the industry's comments as submitted by AHAM, especially with respect to standby power and water efficiency. We are pleased that the industry supports a multi-phased approach with respect to new Energy Star dishwasher criteria and agree with only changing the EF in the short term. We have decided not to object to the industry's position on the other matters, but rather demonstrate to the DOE that it has ample opportunity for critical analysis and the establishment of more meaningful Energy Star criteria in the long term.

In conclusion, Maytag values this vital program that we believe provides American consumers tremendous benefits. We want to reiterate that Energy Star should consider implementing the higher EF for the 2007 effective date, especially given the passage of the appliance tax credit as part of the recently enacted energy bill (H.R. 6), and then move to more robust criteria for the future, possibly beginning in 2009. The Energy Star brand is too important for the advancement of high efficiency for it to lose consumers' confidence. Maytag's recommendations are intended to preserve and strengthen the brand and its reputation.

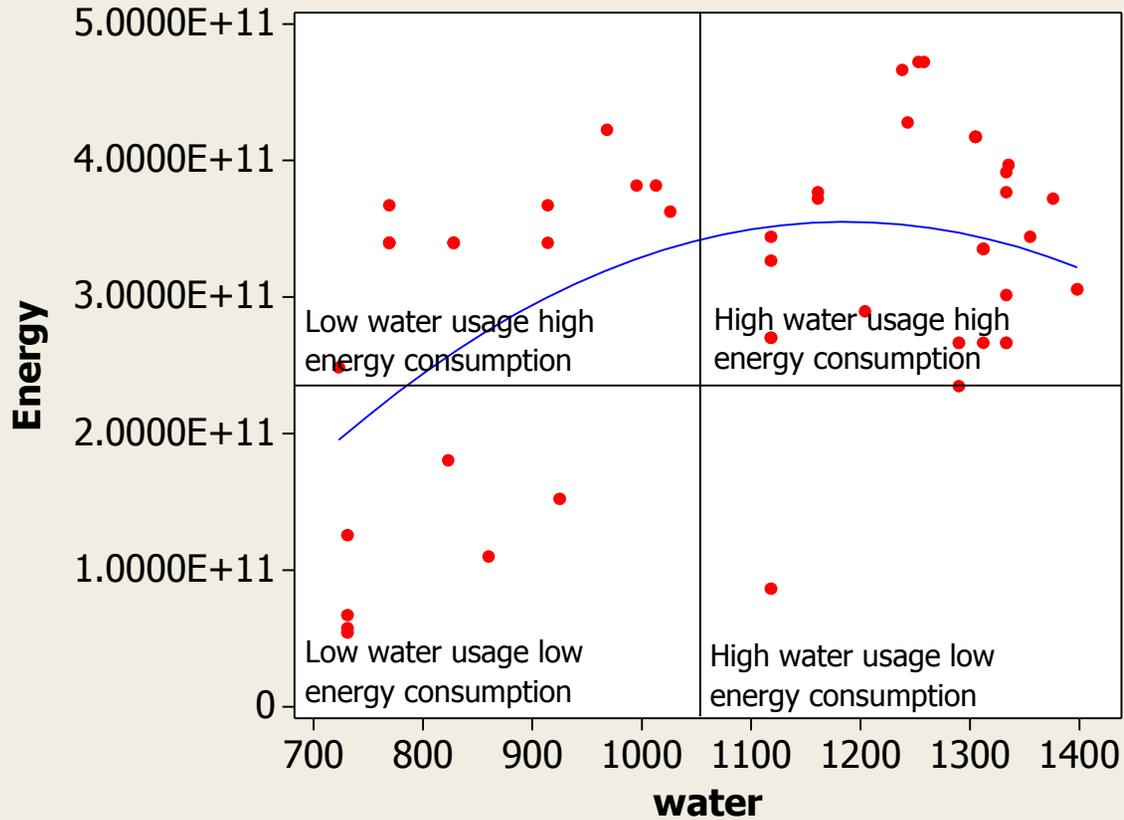
Sincerely,



David P. Steiner  
Vice President Government Affairs

### Fitted Line Plot

$$\text{Energy} = - 6.92\text{E}+11 + 1.77\text{E}+09 \text{ water} - 744382 \text{ water}^{**2}$$



S	9.29948E+10
R-Sq	24.9%
R-Sq(adj)	21.8%