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February 13, 2012

Mr. Christopher Kent
ENERGY STAR® Program Manager
Environmental Protection Agency
Ariel Rios Building, SW, MS 6202J
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Mr. Kent:

The Consortium for Energy Efficiency (CEE) respectfully submits the following comments in response to the ENERGY STAR Commercial Ice Machines Version 2 Final Draft Specification and draft test method, released by the Environmental Protection Agency (EPA) on January 20, 2012.

CEE is the binational organization of energy efficiency program administrators and a staunch supporter of the ENERGY STAR Program. CEE members are responsible for ratepayer-funded efficiency programs in 45 US states and eight Canadian provinces. In 2011, CEE members directed $7.8 billion of energy efficiency program budgets in the two countries. In short, CEE members are groups that are actively working to make ENERGY STAR the relevant platform for energy efficiency across North America.

CEE highly values the role ENERGY STAR plays in differentiating energy efficient products and services that the CEE membership supports locally throughout the US and Canada. We appreciate the opportunity to provide these comments.

We would like to thank EPA for sharing with us several pieces of information related to developing the technical basis for the proposed specification (masked data set, data plots, rationale behind proposed approach, investigation into potential impacts of newly available data). These informed our understanding of the potential differences between previous drafts of the specification and the Final Draft.

Based on our review, EPA did not include or address in the Final Draft specification CEE suggestions regarding the proposed approach to continuous type machines nor concerns about the relatively high model qualification rates for some equipment categories. EPA provided its rationale supporting its basis to move

forward with the proposed approach, and CEE recognizes the logic of EPA's approach and that the proposal has certain benefits. However, based on the information available to us at this time, we believe that a different approach to the continuous type machines category would be more effective. We outline the basis for this recommendation and ask that EPA weigh these considerations again. If new information or data is available that further supports the approach EPA proposes or changes the basis upon which CEE's recommendations are built we ask that EPA share such information.

In addition, we wish to make note of inconsistencies in the DOE test method for commercial ice machines.

Approach to Continuous Type Machines

In the Final Draft specification, EPA proposes to differentiate high efficiency continuous type machines based on normalized (adjusted) energy consumption as opposed to measured (unadjusted) energy consumption. CEE recommends that EPA consider alternative approaches to organizing continuous type machines in the specification, such as by typical application, which do not involve normalization (adjustment) of energy consumption. As stated in our Draft 2 comments, our research indicates that the amenity by which EPA has chosen to normalize (adjust) consumption, ice hardness, is not an amenity that is consistently valued by end users. Making use of such approach may lead to unintended consequence by not enabling selection of the most efficient machines for the desired use.

Continuous type machines make ice that is 55%-106% hard[1] whereas batch type machines are assumed to make ice that is approximately 100% hard.[2] EPA proposes to create a single specification category for all continuous type machines, which as noted produce a range of ice hardness from softer to harder ice. As softer ice inherently requires less energy to make, EPA proposes to report normalized (adjusted) energy consumption levels for continuous type machines (using a DOE test procedure adjustment). However, this approach does not take into account that ice hardness is not consistently valued across end users and applications, and for ENERGY STAR program purposes, the proposed approach will not differentiate which machines will save the most energy for a particular application.

DOE recognized in its final test method ruling that "if consumers value total pounds of ice rather than the cooling that can be provided by the ice, the **unadjusted** (emphasis added) energy and water consumption data may provide a better indication of the energy use per quantity valued by the customer." When CEE revised its high efficiency ice machines specification in 2011, manufacturers communicated that end users value ice characteristics differently depending on need and application. Amenities valued may include: the total pounds of ice; the volume of ice in a cup; the clarity of harder ice; the "chewabilty" of softer ice; or the faster melting of softer ice to keep the product they are selling moist. In other words, the cooling capacity of

[1] Ice that is over 100% hard is "sub-cooled" ice.

[2] No data is available on ice hardness of batch type machines.

the ice (ice hardness) is not a consistently valued amenity among and across different applications and end users. Normalizing (adjusting) and qualifying models based on normalized values for an amenity not consistently valued by end users may mislead consumers who do not value ice hardness about the most efficient machine for their application. For example, the continuous machine data set includes two different machines with approximately the same ice making capacity (540 and 580 lb/day) and the same, "as tested" energy consumption (4.7 kWh/100 lb ice). The normalized consumption of each machine is 5.45 kWh/100 lb ice (machine making harder ice) and 6.88 kWh/100 lb of ice (machine making softer ice), and the machine with lower normalized energy consumption would qualify under the Final Draft specification levels whereas the machine with higher normalized consumption would not. However, for an end user that does not value the difference in ice hardness (or that prefers softer ice), purchase of the qualifying machine over the non-qualifying machine would not result in any real benefit in terms of actual energy or cost savings or other product benefits. This example illustrates how the proposed approach could be misleading to a customer who looks to ENERGY STAR to identify machines that will result in real cost and energy savings.

We recommend that EPA consider alternative approaches to differentiating high efficiency continuous type machines including organizing ice machines into categories based on typical applications (e.g., beverage and non-beverage) within which certain ice characteristics are more consistently valued. The CEE Tier 2 ice machine specification offers one such potential model.

Model Qualification Rates

In addition to considering alternative approaches to differentiating high efficiency continuous type machines, we recommend that EPA reconsider its target level of product model qualification to qualification rates that more effectively differentiate high efficiency machines. Programs require differential performance to provide cost effective energy savings in order to justify their market support for the higher performers. The specification levels that EPA has proposed for continuous type machines result in 45%, 67%, and 50% of machines meeting the proposed levels depending on the technology platform (IMH, RCU, SC). EPA's rationale for permitting these relatively high qualification rates is to ensure sufficient product model availability across ice types (flake, nugget) and sizes. CEE recognizes the importance of balancing product differentiation and product availability and agrees with the approach to analyze each specification category according to these different product characteristics. However, the relatively high product model qualification rates for continuous type machines impact the suitability of the proposed specification for efficiency program utilization.

Test Method

The CEE Commercial Kitchens Committee reviewed the ENERGY STAR draft test method, which refers to the US Department of Energy (DOE) Automatic Commercial Ice Machines Test Method (10 CFR Part 431 Subpart H) for Energy Use testing. The DOE test method appears to have typos on pages 8 and 24 in the sections discussing the appropriate air and water temperatures. These pages state that the water

temperature should be 20 degrees above the air temperature (70 degree Fahrenheit air and 90 degree Fahrenheit water). It is our understanding and stated on other pages of the DOE test method that the reverse is intended and that the appropriate test air temperature is 90 degrees Fahrenheit and the appropriate test water input temperature is 70 degrees Fahrenheit. We recommend confirmation of the intended temperatures and then to specify these specifically in the ENERGY STAR requirements to avoid confusion from reference to an inaccurate source.

CEE would once again like to thank the EPA for the opportunity to comment on the ENERGY STAR specification for Commercial Ice Machines, Version 2, Final Draft, and the draft test method. Please contact CEE Program Manager Kim Erickson at 617-532-0026 with any questions about these comments.

Sincerely,

Ed Wisniewski
Executive Director