



February 3, 2017

Ms. Kirsten Hesla  
U.S. Environmental Protection Agency  
([icemachines@energystar.gov](mailto:icemachines@energystar.gov))

**Re:** AHRI Comments on Draft 1 Version 3.0 Product Specification for ENERGY STAR Qualified Automatic Commercial Ice Makers (ACIM)

---

Dear Ms. Hesla:

These comments are submitted by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) and the North American Association of Food Equipment Manufacturers (NAFEM) in response to the Environmental Protection Agency (EPA) request for comments on Draft 1 Version 3.0 Product Specification for ENERGY STAR Qualified Automatic Commercial Ice Makers (ACIM), issued on January 6, 2017.

AHRI is the trade association representing manufacturers of heating, cooling, water heating, and commercial refrigeration equipment. More than 300 members strong, AHRI is an advocate for the industry and develops standards for and certifies the performance of many of the products manufactured by our members. In North America, the annual output of the HVACR industry is worth more than \$20 billion. In the United States alone, our members employ approximately 130,000 people and support some 800,000 dealers, contractors, and technicians.

NAFEM is a trade association of more than 550 foodservice equipment and manufacturers providing products for food preparation, cooking, storage and table service.

We have the following comments on Draft 1 Version 3.0 Product Specification for ENERGY STAR Qualified ACIM:

### **Revised Certification Criteria**

We feel that the EPA has insufficient data to provide an accurate dataset distribution as most of the industry's upgrades in preparation for Department of Energy's (DOE) revised efficiency levels which are not yet released to production. We recommend the EPA revise the curves to be more conservative. Currently, the industry is producing ice machines that

are significantly more efficient than Energy Star 2.0. A more realistic approach would be for Energy Star to draw the curves to allow the Top 50% instead of the typical Top 25%. Due to DOE's revised minimum federal standards, it is estimated that most models from all manufacturers will fall within the Bottom 50%. Note also that the current curves have several models resting on the line which means those models may not meet Energy Star 3.0. Some models meeting Energy Star may be low volume units like 3-phase and remote compressor, so the Top 25% of performers as proposed in draft 1 may result in only 5-15% of total sales.

Proposing ENERGY STAR levels where there are few or no products in the marketplace meeting these levels, would not be beneficial for the ENERGY STAR programs' continued exposure in the industry, or customers seeking LEED certification or manufacturers. The additional costs associated with the development of higher efficiency ice machines will subject the marketplace to an additional price increase on top of the costs occurred in meeting DOE 2018 efficiency levels.

The discrepancy between the EPA and DOE harvest rate break points results in inconsistent differences between EPA and DOE levels, resulting in difficult to achieve ENERGY STAR minimums for specific harvest rates ranges. It would be ideal if the break points were consistent with the DOE 2018 efficiency levels to ease consumers' understanding and market consistency. We request that EPA modify the break points to match DOE's and choose levels that are uniformly lower than the DOE standards for each equipment type. The proposed efficiency levels should be no more than 15% better than the DOE 2018 levels. This will be consistent with the current 2.0 specification, which is approximately 15% more efficient than the DOE 2010 efficiency levels.

Lastly, DOE has separate efficiency standards depending on whether both the condenser and compressor are remote, or the equipment uses a standalone condenser. EPA has not provided different levels based on the condenser type. We request that EPA again replicate the DOE standard categories.

### **Refrigerant Reporting Requirement**

The refrigerant used in an ACIM is publically available through manufacturers' literature and it is mandatory that this information be included on the nameplate, so refrigerant is public knowledge. Therefore, reporting the refrigerant to EPA is acceptable. We request a drop down menu made available to choose only currently approved refrigerants where EPA would update the form each time a new refrigerant is approved.

### **Connected Functionality**

We are strongly against optional reporting of connected functionality for ACIMs. Connectivity can result in several problems for ice makers including food safety concerns and demand response complications from consumers. Intellectual property patents may prevent some manufacturers from incorporating connected functionality into their

designs. The extra cost to build this functionality into equipment is not warranted when only a small portion of the market in certain regions of the country would benefit.

Load shifting will force customers to buy larger ice machines and bins when space is already at a premium in most bars and restaurants. Our customers are demanding a smaller footprint and more ice.

Ice may be needed to keep food fresh. If ice is unavailable or insufficient, food will start to spoil, resulting to food safety hazards. Ice may be needed for beverages and cocktails. If ice is allowed to sit in a non-refrigerated ice bin, it will become opaque, hold more water and dilute drinks faster. Bar and restaurant patrons will no longer have access to crystal clear ice and slow melting ice for their beverages during peak times.

Load shifting may save a few regional customers energy cost during peak hours, but it also leads to food sanitation concerns and patron dissatisfaction in the quality of ice they receive. Since ice bins are not refrigerated, ice bins need new ice to keep cold otherwise melt rate will increase especially on hot days.

For ACIMs, potential benefits from load shifting is reliant on how much ice storage is available. Connected equipment would likely result in users needing to provide more storage space. It is more energy efficient to make ice when it is needed and avoid excess storage time because storing ice results in additional uses of energy. It is our understanding that saving energy rather than shifting loads is the intent of the ENERGY STAR program. Therefore, we request that EPA remove the optional reporting of connected functionality. AHRI and NAFEM are supportive of the ENERGY STAR program as a national program to save energy. We encourage EPA to avoid the inclusion of regional preferences in the specification, which could undermine the program's scope.

### **Dump or Purge Water**

EPA has asked if manufacturers currently collect information on the amount of water discharged from ACIM products during the dump or purge, and to characterize the additional burden to record a discharge value. All manufacturers do not currently collect this information. A clear and repeatable method would first need to be developed by the industry for this information to be provided. If the amount of dump or harvest water is to be recorded and collected, a method would need to be added to ASHRAE Standard 29. Without a standardized method in place, it would be premature to request this information.

### **Water Quality**

EPA has asked how manufacturers advise customers on water quality in certain areas, and if installation criteria specify the use of a water filtration device. Manufacturers consistently recommend the use of a filter as a best practice based on the needs and quality of water in the area where the equipment is being installed.

AHRI and NAFEM appreciate the opportunity to provide these comments. If you have any questions regarding this submission or would like to discuss any of these points further, please do not hesitate to contact us.

Sincerely,



Helen Davis, PE, LEED AP BD&C  
Engineering Manager, Regulatory Affairs, AHRI  
+1 (703) 600-0388  
[hdavis@ahrinet.org](mailto:hdavis@ahrinet.org)



Charlie Souhrada, CFSP  
Vice President, Regulatory & Technical Affairs, NAFEM  
+1 (312) 821-0212  
[csouhrada@nafem.org](mailto:csouhrada@nafem.org)