

This final document represents the definitive view of the agency on the questions addressed and may be relied upon by the regulated industry and members of the public.

This and other guidance documents are accessible on the U.S. Department of Energy, Energy Efficiency & Renewable Energy web site at: <http://www1.eere.energy.gov/guidance/default.aspx?pid=2&spid=1>.

Guidance Type: Test Procedures

Category: Commercial and Industrial Equipment

Product: Automatic Commercial Ice Makers

Guidance Version: FINAL

Issued: September 25, 2013

Q: May an automatic purge water control (which adjusts the purge water quantity based on the supply water's hardness) be used during testing of an automatic commercial ice maker (ice maker)?

A: Automatic purge water control automatically adjusts the amount of purge water used to flush dissolved solids out of the automatic commercial ice maker based on measurements indicating the need for purging, which depends on the quantity of dissolved solids in the supply water (usually referred to as the supply water's "hardness").

The DOE test procedure for automatic commercial ice makers is found in the Code of Federal Regulations at 10 CFR 431.134, Subpart H, and incorporates by reference AHRI Standard 810–2007 with Addendum 1, (AHRI 810), *Performance Rating of Automatic Commercial Ice-Makers*, March 2011 and ANSI/ASHRAE Standard 29–2009, (ANSI/ASHRAE 29), *Method of Testing Automatic Ice Makers* (including Errata Sheets issued April 8, 2010 and April 21, 2010). The DOE test procedure has no discussion of the use of automatic purge water controls and does not provide any specific requirements for the hardness of the supply water used during testing. On January 28, 2013, DOE published a draft guidance document and asked for comments and suggestions. In response, DOE received one industry comment that was opposed to DOE's proposed approach. After consideration of the comment, we consider our approach (as laid out below) to be the best interpretation of the procedure and so issue this final guidance.

Models tested using the automatic purge setting could have varying test results depending on the supply water's hardness that is available or used at the test location. Testing such equipment in the automatic purge setting could therefore result in inconsistent test results depending on the relative hardness of the water used in testing. To ensure consistent test results, automatic commercial ice makers with automatic purge water control should be tested using a fixed purge water setting as described in the automatic commercial ice maker's written instructions shipped with the unit as being appropriate for water of normal, typical, or average hardness in accordance with section 4.1.4 of AHRI 810's requirement that the "test unit shall be set up for testing per the manufacturer's written instructions provided with the unit." The automatic purge setting should not be used for testing. Further, purge water settings described in the instructions as suitable for use only with water that has higher or lower than normal hardness (such as distilled water or reverse osmosis water) should not be used for testing.

If the model has no option for fixed purge water control or if there are no fixed purge water settings described in the written instructions as suitable for water of normal, typical or average water hardness, the manufacturer of the ice maker should petition DOE for a test procedure waiver. DOE's regulations allow manufacturers to apply for a waiver when a manufacturer determines that a given basic model contains one or more design features that would cause the prescribed test procedures to evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data (*See* 10 C.F.R. § 431.401).