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DEPARTMENT OF ENERGY

10 CFR Part 431

[Docket No. EERE–2010–BT–TP–0036]

RIN 1904–AC38

Energy Efficiency Program for Certain Commercial and Industrial Equipment: Test Procedures for Automatic Commercial Ice Makers

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Notice of proposed rulemaking.

SUMMARY: The U.S. Department of Energy (DOE) proposes to revise its test procedure for automatic commercial ice makers (ACIM) established under the Energy Policy and Conservation Act. This notice of proposed rulemaking (NOPR) proposes to update the incorporation by reference of industry test procedures to the most current published versions. The current DOE test procedure applies to automatic commercial ice makers that produce cube type ice. This NOPR proposes to expand coverage of the test procedure to all batch type and continuous type ice makers with capacities between 50 and 4,000 pounds of ice per 24 hours. A batch type ice maker is defined as an ice maker with alternate freezing and harvesting periods, including machines that produce cube type ice, tube type ice, and fragmented ice. A continuous type ice maker is defined as an ice maker that continually freezes and harvests ice at the same time. Continuous type ice makers primarily produce flake or nugget ice. DOE also proposes amendments to standardize test results based on ice quality for continuous type ice makers, clarify the test methods and reporting requirements for automatic ice makers designed to be connected to a remote compressor rack, and provide test methods for modulating capacity ice makers. Furthermore, DOE proposes to discontinue the use of a clarified energy use equation.

The test procedure applies to automatic commercial ice makers as defined in section 136 of the Energy Policy Act of 2005. Use of any amended test procedures will be required on the compliance date of any standards developed in the associated energy conservation standard rulemaking. This notice announces a public meeting to discuss and receive comments on the proposed test procedure amendments.

DATES: DOE will hold a public meeting in Washington, DC on April 29, 2011 from 9 a.m. to 1 p.m. Additionally, DOE plans to make the public meeting available via webinar. See section V, "Public Participation," of this NOPR for webinar registration information, participant instructions, and information about the capabilities available to webinar participants.

DOE will accept comments, data, and other information regarding this NOPR before or after the public meeting, but no later than June 3, 2011. See section V, "Public Participation," for details.

ADDRESSES: The public meeting will be held at the U.S. Department of Energy, Forrestal Building, Room 8E–089, 1000 Independence Avenue, SW., Washington, DC 20585–0121. To attend, please notify Ms. Brenda Edwards at (202) 586–2945. Please note that foreign nationals planning to participate in the public meeting are subject to advance security screening procedures. Any foreign national wishing to participate in the meeting should advise DOE as soon as possible by contacting Ms. Brenda Edwards at (202) 586–2945 to initiate the necessary procedures.

Any comments submitted must identify the NOPR for test procedures for automatic commercial ice makers, and provide docket number EERE–2010–BT–TP–0036 or Regulation Identifier Number (RIN) 1904–AC38. Comments may be submitted using any of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *E-mail: ACIM-2010-TP-0036@ee.doe.gov.* Include the docket number EERE–2010–BT–TP–0036 and/or RIN 1904–AC38 in the subject line of the message.
- *Mail:* Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, Mailstop EE–2J, 1000 Independence Avenue, SW., Washington, DC 20585–0121. If possible, please submit all items on CD. It is not necessary to include printed copies.
- *Hand Delivery/Courier:* Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, 950 L'Enfant Plaza, SW., Suite 600, Washington, DC 20024. Telephone: (202) 586–2945. If possible, please submit all items on CD. It is not necessary to include printed copies.

Written comments regarding the burden-hour estimates or other aspects of the collection-of-information requirements contained in this proposed rule may be submitted to Office of Energy Efficiency and Renewable Energy through the methods listed above and by e-mail to *Christine_J._Kymn@omb.eop.gov.*

Docket: The docket is available for review at regulations.gov, including **Federal Register** notices, framework documents, public meeting attendee lists and transcripts, comments, and other supporting documents/materials. All documents in the docket are listed in the regulations.gov index. However, not all documents listed in the index may be publicly available, such as information that is exempt from public disclosure. The regulations.gov web page will contain instructions on how to access all documents in the docket, including public comments.

The rulemaking web page can be found at: *http://www.eere.energy.gov/buildings/appliance_standards/commercial/automatic_ice_making_equipment.html.* This web page contains a link to the docket for this notice on regulations.gov.

For detailed instructions on submitting comments and additional information on the rulemaking process, see section V, "Public Participation," of this document.

For further information on how to submit or review public comments, participate in the public meeting, or view hard copies of the docket in the Resource Room, contact Ms. Brenda Edwards at (202) 586–2945 or e-mail: *Brenda.Edwards@ee.doe.gov.*

FOR FURTHER INFORMATION CONTACT: Mr. Charles Llenza, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies, EE–2J, 1000 Independence Avenue, SW., Washington, DC 20585–0121. Telephone: (202) 586–2192, *Charles_Llenza@ee.doe.gov.*

In the Office of General Counsel contact Mr. Ari Altman, U.S. Department of Energy, Office of General Counsel, GC–71, 1000 Independence Avenue, SW., Washington, DC 20585–0121, (202) 287–6307, *Ari.Altman@hq.doe.gov.*

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I. Background and Legal Authority

Title III of the Energy Policy and Conservation Act ("EPCA" or "the Act," Pub. L. 94–163), as amended by the Energy Policy Act of 2005 (EPACT 2005, Pub. L. 109–58), establishes an energy conservation program for certain commercial and industrial equipment. (42 U.S.C. 6311–6317) This program sets Federal energy conservation standards, test procedures, and labeling requirements.

EPCA prescribes energy conservation standards for automatic commercial ice makers that produce cube type ice with capacities between 50 and 2,500 pounds of ice per 24-hour period. (42 U.S.C. 6313(d)(1)) EPCA also requires the Secretary of Energy to review these standards and determine, by January 1, 2015, whether amending the applicable standards is technically feasible and economically justified. (42 U.S.C. 6313(d)(3)) DOE is currently undertaking a standards rulemaking, concurrent to this test procedure rulemaking, to determine if amended standards are technically feasible and economically justified for automatic commercial ice makers covered by the standards set in EPACT 2005 (docket number EERE–2010–BT–STD–0037). In the energy conservation standards rulemaking, DOE is also proposing, under 42 U.S.C. 6313(d)(2), standards for continuous type ice makers, tube type ice makers, and equipment with capacities up to 4,000 pounds of ice per 24 hours.

Manufacturers of automatic commercial ice makers must use prescribed test procedures to measure energy and, if applicable, water use to certify to DOE that equipment complies with the energy conservation standards. (42 U.S.C. 6291(6)(A)) Manufacturers must also use prescribed test procedures for labeling or making representations about the efficiency of those products. (42 U.S.C. 6315(b)) Under 42 U.S.C. 6314, EPCA sets forth the criteria and procedures DOE must follow when prescribing or amending test procedures for covered products. EPCA provides in relevant part that "test procedures prescribed in accordance with this section shall be reasonably designed to produce test results which reflect energy efficiency, energy use, and estimated operating costs of a type of industrial equipment (or class thereof) during a representative average use cycle (as determined by the Secretary), and shall not be unduly burdensome to conduct." (42 U.S.C. 6314(2))

EPCA, as amended by EPACT 2005, prescribes that the test procedure for automatic commercial ice makers shall be the Air-Conditioning and Refrigeration Institute (ARI) Standard 810–2003, "Performance Rating of Automatic Commercial Ice-Makers." (42 U.S.C. 6314(a)(7)(A)) Pursuant to that section, on December 8, 2006, DOE published a final rule (the 2006 test procedure final rule) that adopted the test procedure specified in ARI Standard 810–2003, with a revised method for calculating energy use. DOE adopted a clarified energy use rate equation to specify that the energy use be calculated using the entire mass of ice produced during the testing period, normalized to 100 pounds of ice produced. 71 FR 71340, 71350 (Dec. 8, 2006). ARI Standard 810–2003 references the American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 29–1988 (Reaffirmed 2005) (ASHRAE Standard 29–1988 (RA 2005)), "Method of Testing Automatic Ice Makers," as the method of test. The current test procedures for automatic commercial ice makers appear at 10 CFR part 431, subpart H, section 134, "Uniform test method for the measurement of energy consumption and water consumption of automatic commercial ice makers."

Since the publication of the 2006 test procedure final rule, ARI merged with the Gas Appliance Manufacturers Association (GAMA) to form the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) and updated its test procedure to reflect changes in the industry. The new test procedure, AHRI Standard 810–2007, amends the previous test procedure, ARI Standard 810–2003, to:

1. Expand the capacity range of covered equipment to between 50 and 4,000 pounds of ice per 24 hours at standard rating conditions
2. Provide definitions and specific test procedures for batch type and continuous type ice makers; and
3. Provide a definition for ice hardness factor, which is a measure of ice quality or the percentage of liquid water content in the ice product of continuous type ice machines.

The revised AHRI Standard 810–2007 and ASHRAE Standard 29–2009 adopt new definitions for a "batch type ice maker" (also referred to as a cube type ice maker) and a "continuous type ice maker." A batch type ice maker is defined as an ice maker that has alternate freezing and harvesting periods, including machines that produce cube type ice, tube type ice, and fragmented ice. The test procedures further clarify that in this definition the word "cube" does not refer to the specific shape or size of ice produced. A continuous type ice maker is defined as an ice maker that continually freezes and harvests ice at the same time. Continuous type ice makers primarily produce flake and nugget ice.

EPCA, as amended, provides that if ARI Standard 810–2003 is revised, the Secretary shall amend the DOE test procedure as necessary to be consistent with the amended ARI Standard unless the Secretary determines, by rule, that to do so would not meet the requirements for test procedures set forth in EPCA. (42 U.S.C. 6314(a)(7)(B)) Because ARI

Standard 810 has been updated from the 2003 version, DOE must amend the DOE test procedure to reflect these updates, unless doing so would not meet the definition of a test procedure, as set forth in section 343(a)(7) of EPCA. (42 U.S.C. 6314(a)(7)(B)(i))

The commercial test procedure being considered in this rulemaking, AHRI Standard 810–2007, references the previous ASHRAE Standard 29–1988 (RA 2005). However, in 2009, ASHRAE also updated their test procedure to include provisions for measuring the performance of batch type and continuous type ice makers. The DOE test procedure also references the ASHRAE Standard 29–1988 (RA 2005).

DOE has preliminarily determined that the updated versions are consistent with the test procedure currently used in industry, expand coverage to additional products that are being proposed in the ongoing standard rulemaking, including continuous type and larger capacity ice makers with capacities up to 4,000 pounds of ice per day, and would meet the above-referenced requirements for a test procedure set forth in EPCA. (42 U.S.C. 6314(a)(7)(B)) As such, DOE proposes to incorporate by reference AHRI Standard 810–2007 as the DOE test procedure, with ASHRAE Standard 29–2009 as the referenced method of test.

DOE is revising the automatic commercial ice maker test procedure in part to correspond with changes being proposed in the concurrent standard rulemaking process on automatic commercial ice makers (docket number EERE–2010–BT–STD–0037). The energy conservation standards rulemaking that DOE is proposing under 42 U.S.C. 6313(d)(2) would establish energy conservation standards for continuous type ice makers and equipment with capacities up to 4,000 pounds of ice per 24 hours.

In addition to updating the references to AHRI 810–2007 and ASHRAE Standard 29–2009, DOE is proposing revisions to the DOE test procedure that:

1. Expand the scope of the test procedure to include equipment with capacities from 50 to 4,000 pounds of ice per 24 hours;
2. Provide test methods for continuous type ice makers;
3. Standardize the measurement of energy and water use for continuous type ice makers with respect to ice quality;
4. Clarify the test method and reporting requirements for remote condensing automatic commercial ice makers designed for connection to compressor racks;
5. Specify an optional test method for modulating capacity ice makers; and
6. Discontinue the use of a clarified energy use rate calculation and instead calculate energy use per 100 pounds of ice as specified in ASHRAE Standard 29–2009.

DOE believes that these amendments will result in a test procedure that more accurately reflects the energy and water use of automatic commercial ice makers and more fully complies with the requirements of EPCA. This test procedure rulemaking also fulfills DOE's obligation under EPCA to review the test procedure for automatic commercial ice makers every 7 years. (42 U.S.C. 6314(a)(1)(A))

EPCA requires that if DOE determines that a test procedure amendment is warranted, it must publish proposed test procedures and offer the public an opportunity to present oral and written comments on them. (42 U.S.C. 6314(b))

II. Summary of the Proposed Rule

A. Proposed Test Procedure Amendments

This NOPR proposes to update the test procedure references to the current industry-accepted test procedures, expand the scope to cover all continuous and batch type equipment with capacities from 50 to 4,000 pounds of ice per 24 hours, provide a test method to normalize energy with respect to ice quality for continuous type ice makers, clarify the test method and reporting requirements for remote condensing ice makers that are designed to be used with a remote compressor rack, provide an optional test method for modulating capacity ice makers, and discontinue the use of a clarified energy use rate calculation. In the absence of the clarified energy rate equation published by DOE as part of the previous DOE test procedure (71 FR 71340, 71350 (Dec. 8, 2006)), DOE will use the method prescribed in ASHRAE Standard 29–2009 to calculate energy use per 100 pounds of ice produced. This method is discussed in more detail in section III.A.7 of this document. DOE anticipates publishing the final rule amending the ACIM test procedures prior to issuing the NOPR for the ACIM energy conservation standard.

B. Association With Energy Conservation Standards Rulemaking

DOE is proposing these revisions to the DOE test procedure be consistent with the scope of coverage of the concurrent energy conservation standard rulemaking for automatic commercial ice makers (docket number EERE–2010–BT–STD–0037). If the scope of coverage changes in later stages of the automatic commercial ice maker energy conservation standards rulemaking, DOE may add provisions, as necessary, to the test procedure so that it is consistent with the final scope of coverage of any new or amended standards for automatic commercial ice makers.

EPCA, as amended, requires that any amended test procedures for automatic commercial ice makers shall comply with section 6293(e) of the same title (42 U.S.C. 6314(a)(7)(C)), which in turn prescribes that if any rulemaking amends a test procedure, DOE must determine "to what extent, if any, the proposed test procedure would alter the measured energy efficiency * * * of any covered product as determined under the existing test procedure." (42 U.S.C. 6293(e)(1)) Further, if DOE determines that the amended test procedure would alter the measured efficiency of a covered product, DOE must amend the applicable energy conservation standard accordingly. (42 U.S.C. 6293(e)(2))

In accordance with 42 U.S.C. 6293(e), DOE has analyzed the amended test procedure, as proposed in today's NOPR, to determine if it will affect the measured energy efficiency of a covered product. When the revised ACIM test procedure final rule is promulgated, the energy conservation standards set in EPACT 2005 for automatic commercial ice makers that produce cube type ice of capacities between 50 and 2,500 pounds of ice per 24 hours will be in effect.

DOE believes that the only proposed test procedure amendments applicable to automatic commercial ice makers covered under EPACT 2005 standards are those that update the referenced industry test procedures to their most current versions, clarify the test method and reporting requirements for automatic commercial ice makers designed to be connected to a remote compressor rack, and discontinue the use of a clarified energy use rate equation. DOE believes that these amendments would not significantly affect the measured energy or water use of equipment for which standards are currently in place. The updated industry test procedures, AHRI 810–2007 and ASHRAE Standard 29–2009, only expand the test procedure to continuous type ice makers and ice makers with capacities up to 4,000 pounds of ice per 24 hours; they do not affect the test procedure for ice makers that make cube type ice with capacities between 50 and 2,500 pounds of ice per 24 hours. See section III.A.1 for more information. The amendments that clarify the test method and reporting

requirements for automatic commercial ice makers designed to be connected to a remote compressor rack and discontinue the use of the clarified energy use rate equation are primarily editorial in nature and do not fundamentally affect the way automatic commercial ice makers are tested. These amendments are described in more detail in sections III.A.5 and III.A.7, respectively.

The remaining proposed test procedure amendments are only applicable to types of automatic commercial ice makers for which energy conservation standards do not currently exist. In the concurrent ACIM energy conservation standard rulemaking, DOE is proposing to establish energy conservation standards for batch type and continuous type ice makers with capacities up to 4,000 pounds of ice per 24 hours. This includes new energy conservation standards for batch type ice makers that produce cube type ice with capacities between 2,500 and 4,000 pounds of ice per 24 hours, batch type ice makers that produce other than cube type ice with capacities between 50 and 4,000 pounds of ice per 24 hours, and continuous type ice makers with capacities between 50 and 4,000 pounds of ice per 24 hours. However, these standards will not be promulgated until after the ACIM test procedure final rule is issued. Because there currently are no standards for the aforementioned types of ice makers, section 6293(e) does not apply to test procedure amendments that affect only those equipment types.

Because DOE does not believe the updated test procedure will alter the measured energy or water consumption of automatic commercial ice makers that are covered by existing DOE energy conservation standards, DOE proposes that use of the amendments be required upon the effective date of any test procedure final rule, 30 days after publication in the **Federal Register**.

DOE requests comment on its determination that the proposed test procedure amendments will not affect the measured energy or water consumption of automatic commercial ice makers that are currently covered under energy conservation standards. DOE also requests comment on the proposal that the use of the amended test procedure be required upon the effective date of any test procedure final rule, 30 days after publication in the **Federal Register**.

III. Discussion

As part of the current rulemaking on the energy conservation standard for commercial refrigeration equipment, DOE held a public meeting on December 16, 2011 to present its Framework Document (*http://www.eere.energy.gov/buildings/appliance_standards/commercial/pdfs/acim_framework_2010_11_04.pdf*) and to receive comments from interested parties. DOE considered the comments received as a result of the Framework Document public meeting and incorporated into this document certain recommendations, where appropriate. Responses to these comments appear throughout the discussion of test procedure amendments. The test procedure amendments DOE is proposing in this rulemaking were summarized in section II.A and are discussed in further detail in the following sections. Responses to comments that are not specifically addressed in the discussion of test procedure revisions appear in section III.B, which provides responses to comments in the following subject areas:

1. Treatment of Tube Type Ice Machines
2. Quantification of Auxiliary Energy Use
3. Measurement of Storage Bin Effectiveness
4. Establishment of a Metric for Potable Water Used in Making Ice
5. Standardization of Water Hardness for Measurement of Potable Water Used in Making Ice
6. Testing of Batch Type Ice Makers at the Highest Purge Setting

A. Summary of the Test Procedure Revisions

Today's proposed rule contains the following proposed changes to the test procedure in 10 CFR 431, subpart H.

1. Update References to Industry Standards to Most Current Versions

The current DOE test procedure for automatic commercial ice makers, established in the 2006 test procedure final rule, adopts ARI Standard 810–2003 as the test procedure used to measure the energy consumption of a piece of equipment to establish compliance with energy conservation standards set in EPACT 2005. 71 FR 71340, 71350 (Dec. 8, 2006). The DOE test procedure also references ASHRAE Standard 29–1988 (RA 2005). AHRI (previously ARI) Standard 810–2007 and ASHRAE Standard 29–2009 are designed to be used together to test automatic commercial ice makers. AHRI Standard 810–2007 specifies the standard rating conditions and provides relevant definitions of equipment, scope, and calculated or measured values. ASHRAE Standard 29 specifies how to conduct the test procedure, including the technical requirements and calculations. Since the publication of the 2006 test procedure final rule, AHRI has released an updated version of the test procedure, AHRI Standard 810–2007. ASHRAE subsequently updated their test procedure in 2009 to reflect the same changes. AHRI Standard 810–2007 and ASHRAE Standard 29–2009 amend the previous test procedures by expanding the capacity range to 4,000 pounds per day and providing for the testing of continuous type ice makers. In adopting the revised AHRI Standard 810–2007 and referencing ASHRAE Standard 29–2009, DOE is proposing to incorporate all the test procedure changes incorporated in the updated versions. At the ACIM Framework Document public meeting, AHRI stated its support for this proposal. (AHRI, No. 0016 at p. 139[1])

DOE requests comment on updating the referenced industry test procedures to the most current versions.

In addition, DOE proposes to make additional changes that expand the capacity range to larger capacity equipment, up to 4,000 pounds of ice per 24 hours, and include additional test methods for continuous type ice makers. These two changes are discussed in detail in the following two sections.

2. Expand Capacity Range to Larger Capacity Equipment

AHRI Standard 810–2007 establishes a capacity range of 50 to 4,000 pounds of ice per 24 hours at standard rating conditions. The previous standard, ARI Standard 810–2003, referenced by the current DOE test procedure, is limited to a capacity range of 50 to 2,500 pounds of ice per 24 hours. AHRI expanded the capacity range due to changes in the products offered by manufacturers. Specifically, some manufacturers offer larger capacity units that exceed the capacity range of the previous test procedure. AHRI's expansion of the capacity range does not affect the way ice makers are tested; it only provides for the same test procedure to be applied to larger capacity ice makers.

At the ACIM Framework Document public meeting, some interested parties commented that 4,000 pounds of ice per 24 hours was a natural ceiling for commercial equipment. (AHRI, No. 0016 at pp. 65 and 144; Manitowoc Ice,

[1] In the following discussion, comments will be presented along with a notation in the form "AHRI, No. 0016 at p. 139," which identifies a written comment DOE received and included in the docket of this rulemaking. DOE refers to comments based on when the comment was submitted in the rulemaking process. This particular notation refers to a comment (1) by AHRI, (2) in document number 0016 of the docket (available at regulations.gov), and (3) appearing on page 139.

No. 0016 at p. 66; Scotsman, No. 0016 at p. 68) Stakeholders also commented that there did not appear to be any issues in applying the test procedure to larger capacity equipment, except perhaps for providing enough conditioned air in the environmental chamber to test these machines. (Scotsman, No. 0016 at pp. 69 and 144)

While no manufacturers of equipment with capacities exceeding 4,000 pounds of ice per 24 hours attended the public meeting, Vogt, the primary manufacturer of equipment with capacities larger than 4,000 pounds per 24 hours, submitted a written comment suggesting that DOE expand the capacity limit to include equipment that produces up to 10,000 pounds of ice per 24 hours. Vogt further commented that this leads consumers to believe that larger capacity machines are not as efficient, when in fact they are more efficient, and prevents larger capacity equipment from participating in rebate programs or other energy efficiency programs.[2]

In analyzing the current ice maker market, DOE has found that approximately 99 percent of automatic commercial ice makers have capacities between 50 and 4,000 pounds of ice per 24 hours. However, DOE has identified a few automatic commercial ice makers with capacities that exceed 4,000 pounds of ice per 24 hours that are currently offered for sale in the United States. Further, DOE found that many of these larger capacity machines are marketed as commercial products for use in food sales, schools, and other commercial spaces and fall within the EPCA definition of an automatic commercial ice maker. (42 U.S.C. 6311(19))

DOE has analyzed the AHRI 810–2007 and ASHRAE Standard 29–2009 test procedure methods and believes that there are no technical issues with applying these methods to larger capacity equipment, up to 10,000 pounds of ice per 24 hours. In fact, this is how larger capacity ice makers are currently tested by manufacturers to voluntarily determine their energy performance. DOE understands that larger capacity ice makers require a larger environmental chamber to accommodate their increased physical size and the additional conditioned air required to maintain the test room at ambient conditions. In addition, there may be other issues related to marketing or burden when testing ice makers with capacities between 4,000 and 10,000 pounds of ice per 24 hours.

In weighing the various factors for and against establishing a test procedure covering ice makers with capacities between 4,000 and 10,000 pounds per 24 hours, DOE has determined that such test procedures would not be warranted at this time. Primarily, DOE does not believe that the increased burden association with this significant expansion in scope is justified due to the small market share of equipment with capacities greater than 4,000 pounds per 24 hours. Therefore, DOE proposes to expand the capacity range of the DOE test procedure to only include larger capacity automatic commercial ice makers with harvest rates between 50 and 4,000 pounds of ice per 24 hours.

DOE requests comment on expanding the capacity range from 50 to 2,500 pounds of ice per 24 hours to 50 to 4,000 pounds of ice per 24 hours.

3. Include Test Methods for Continuous Type Ice Makers

During the public comment period for the 2006 test procedure proposed rule, which adopted test procedures for the EPACT 2005 ACIM standards, interested parties requested that additional product classes be considered. Specifically, Howe Corporation requested that DOE test procedures and requirements be amended and expanded to apply a revised ARI Standard 810 to all automatic ice makers, regardless of ice-cube type. (docket number EE–RM/TP–05–500, Howe, No. 6 at pp. 3–4)[3] At that time, DOE stated that the test procedure for automatic commercial ice makers was adopted for two reasons: (1) To adopt methods for testing equipment for which EPACT 2005 set energy conservation standards and (2) to comply with the requirement that the test procedure for such ice makers be ARI Standard 810–2003, which only applies to the equipment that produces cube type ice. DOE added that expanding the energy conservation standard for automatic commercial ice makers to include equipment that produces ice other than cube type ice was outside the scope of that rulemaking proceeding. However, DOE noted that it is authorized to adopt standards for such other commercial ice makers (42 U.S.C. 6313(d)(2)), and that if and when DOE sought to adopt such standards, it intended to consider continuous type ice makers that produce flake type ice. 71 FR 71340, 71351 (Dec. 8, 2006).

AHRI Standard 810–2007 and ASHRAE Standard 29–2009 have been amended to allow for the testing of continuous type ice makers. The revised AHRI Standard 810–2007 and ASHRAE Standard 29–2009 adopt definitions for a "batch type ice maker" (also referred to as a cube type ice maker) and a "continuous type ice maker." A batch type ice maker is defined as an ice maker that has alternate freezing and harvesting periods. The standard further clarifies that in this definition the word "cube" does not refer to the specific shape or size of ice produced. A continuous type ice maker is defined as an ice maker that continually freezes and harvests ice at the same time. Continuous type ice makers primarily produce flake and nugget ice.

In addition, AHRI Standard 810–2007 and ASHRAE Standard 29–2009 provide explicit test methods for both batch and continuous type ice makers. The previous ARI Standard 810–2003 and ASHRAE Standard 29–1988(RA 2005), as referenced in the current DOE test procedure, do not include a method for testing continuous type ice makers. DOE intends to adopt AHRI Standard 810–2007 as the referenced DOE test procedure, including referencing ASHRAE Standard 29–2009 as the method of test. This would expand the current DOE test procedure to provide a method for testing continuous type ice makers, in addition to batch type ice makers. The test procedure provisions for testing continuous type ice makers would be used in conjunction with standards for automatic commercial ice makers that produce flake or nugget ice. These standards are being developed in the ongoing ACIM energy conservation standard rulemaking.

DOE requests comment on providing test methods for continuous type ice makers.

4. Standardize Ice Quality for Continuous Type Ice Makers

Continuous type ice makers typically produce ice that is not completely frozen. This means that there is some liquid water content in the total mass of ice product produced by continuous type ice makers. The specific liquid water content can be quantified in terms of ice hardness or ice quality and is usually represented in terms of percent of completely frozen ice present in the total ice product. Ice quality can vary significantly across different machines. DOE understands that the percentage of liquid water in the product of continuous ice makers is directly related to the measured energy consumption of

[2] Framework comments submitted by Vogt Ice to Detlef Westphalen, Navigant Consulting Inc, February 10, 2011.

[3] This notation refers to a comment that was submitted by Howe Corporation and is recorded in docket number EE–RM/TP–05–500 as comment number 6, and (2) a passage that appears on pages 3 and 4 of that document.

these machines. To provide comparability and repeatability of results, DOE proposes to standardize the energy consumption of continuous ice makers to a total mass of ice that is 32 degrees Fahrenheit (°F) with no liquid water content. At the December 16, 2010 Framework Document public meeting, Scotsman agreed that there may be some reason to standardize ice quality to 32 °F with no liquid water content. Scotsman further stated that there is also some utility in low quality ice. (Scotsman, No. 0016 at p. 160)

DOE proposes to standardize the ice quality of continuous type ice makers using the "Procedure for Determining Ice Quality" in section A.3 of normative annex A in ASHRAE Standard 29–2009. In this procedure, a calorimeter constant is calculated, which is essentially a ratio of the heat content of a given mass of 32 °F ice with no liquid water content (100 percent ice quality) divided by the heat content of the same mass of 32 °F ice and water mixture (less than 100 percent quality) produced by a continuous type ice maker. This is the inverse of the ice hardness factor, as defined in AHRI 810–2007, presented as a decimal. The calorimeter constant will be 1.0 for 100 percent ice quality product and greater than 1.0 for ice with some liquid water content. The calorimeter constant will be used to determine an adjustment factor based on the energy required to cool ice from 70 °F to 32 °F and produce a given amount of ice, as shown below:

$$\textbf{Ice Quality Adjustment Factor} = \left[\frac{144\,{}^{\mathrm{Btu}}/_{\mathrm{lb}} + 38\,{}^{\mathrm{Btu}}/_{\mathrm{lb}}}{\left(\frac{144\,{}^{\mathrm{Btu}}/_{\mathrm{lb}}}{\textbf{calorimeter constant}}\right) + 38\,{}^{\mathrm{Btu}}/_{\mathrm{lb}}}\right]$$

Note: Btu = British thermal units.

The measured energy consumption per 100 pounds of ice and the measured condenser water consumption, as determined using ASHRAE Standard 29–2009, will be multiplied by the adjustment factor to yield the scaled energy and condenser water consumption values, respectively. These values will be reported to DOE to show compliance with the energy conservation standard. The measured value of potable water used in making ice will not be multiplied by the calorimeter constant because all of the potable water is still used to produce usable product for continuous type ice makers.

In response to Scotsman's comment (Scotsman, No. 0016 at p. 160) regarding the utility of automatic commercial ice makers that produce low quality ice, this test method will not affect the availability of automatic commercial ice makers that produce lower quality ice; it will simply provide a method by which automatic commercial ice maker energy consumption and condenser water use results can be compared to a baseline ice quality.

DOE requests comment on the proposed method to normalize energy and condenser water consumption to 32 °F water with no water content for continuous type ice makers.

5. Clarify the Test Method and Reporting Requirements for Remote Condensing Automatic Commercial Ice Makers

EPCA establishes energy conservation standards for two types of remote condensing automatic commercial ice makers: (1) Remote condensing (but not remote compressor) and (2) remote condensing and remote compressor. (42 U.S.C. 6313(d)(1)) Remote condensing (but not remote compressor) ice makers must be sold and operated with a dedicated remote condenser that is in a separate section from the ice-making mechanism and compressor. Remote condensing and remote compressor automatic commercial ice makers may be operated with a dedicated remote condensing unit or connected to a remote compressor rack. Both of these remote refrigeration systems contain compressors and condensers that are in a separate section from the ice-making mechanism that they serve.

In assessing the current DOE and industry test procedures, DOE has noticed an inconsistency in the way the energy use of remote condensing and remote compressor ice makers that are designed to be connected to a remote compressor rack is reported. Remote condensing and remote compressor ice makers sold with a dedicated remote condensing unit report energy consumption of the total ice maker; including the energy consumption of the ice-making mechanism, the compressor, and the remote condenser or condensing unit. Ice makers that are meant to be used with a remote compressor rack report only the energy use of the ice-making mechanism and do not include any energy use associated with the compressors and condensers on the remote compressor rack. The compressor and condenser energy consumption are excluded because ice maker manufacturers do not have control of the energy efficiency of the remote compressor rack. In addition, the same remote compressor rack typically serves multiple equipment types in addition to automatic commercial ice makers, such as commercial refrigeration equipment and walk-in coolers and freezers.

At the Framework Document public meeting, DOE proposed three potential options to address this issue:

1. A calculation method that applies a default factor to the ice-making mechanism energy consumption that is representative of remote compressor rack energy use;
2. A measurement method that measures the energy use of a remote condensing and remote compressor ice maker with a designated remote condensing unit and reports the energy use of both the ice-making mechanism and the remote condensing unit; or
3. A measurement method that measures the energy use of a remote condensing and remote compressor ice maker with a designated remote condensing unit, but continues to report only the energy use associated with the ice-making mechanism.

In response to these options, Manitowoc Ice stated that while remote condensing automatic commercial ice makers could technically be tested using a default value for compressor efficiency if the refrigerant is measured, this would require a new test procedure and may not be justified given the market share of this equipment. (Manitowoc Ice, No. 0016 at pp. 149 and 153) Scotsman and AHRI reiterated that the market share of this equipment was small and was not expected to grow significantly. (Scotsman, No. 0016 at pp. 151–152; AHRI, No. 0016 at p. 150) Manitowoc Ice also commented that ice-making heads designed to be connected to remote condensing rack systems are essentially the same as those that are sold with a dedicated remote

condensing unit. (Manitowoc Ice, No. 0016 at p. 154)

DOE understands that the market share of this equipment is small. However, remote condensing ice makers that are designed to be sold for use with a remote rack system are covered equipment pursuant to the EPCA definition of an automatic commercial ice maker. (42 U.S.C. 6311(19)) In addition, as Manitowoc Ice mentioned, remote condensing ice makers designed to be connected to remote condensing rack systems are essentially the same as those that are sold with a dedicated remote condensing unit. Therefore, DOE believes testing remote condensing ice makers that are designed to be used with a remote condensing rack could be accomplished, without significant additional burden, by testing these units with a sufficiently sized dedicated remote condensing unit.

Option 1 above would require testing of remote condensing ice makers that are designed to be used with a remote compressor rack using a calculation methodology that would be more representative of the energy consumption of the remote compressor rack. This calculation method would apply a default factor to the ice-making mechanism which would be determined through measurement of the amount of cooling supplied to make ice. Information about the amount of cooling supplied by the refrigerant is not currently captured in the DOE test procedure. DOE believes that this additional testing would result in a significant additional burden on manufacturers that would not be warranted given the small market share of this equipment. In addition, the remote compressor rack is not covered as part of the automatic commercial ice maker and, thus, its energy consumption is not required to be captured by the DOE test procedure.

EPCA requires that test procedures "shall be reasonably designed to produce test results which reflect energy efficiency, energy use, and estimated operating costs of a type of industrial equipment (or class thereof) during a representative average use cycle (as determined by the Secretary), and shall not be unduly burdensome to conduct." (42 U.S.C. 6314(2)) DOE believes that testing all remote condensing and remote compressor automatic commercial ice makers that are designed to be connected to a remote compressor rack with a dedicated remote condensing unit will represent the energy consumption of this equipment without introducing undue burden. In addition, this method provides a straightforward and consistent way to compare the performance of remote condensing and remote compressor ice makers, both those sold with dedicated remote condensing units and those designed to be used with remote compressor rack systems. Therefore, DOE proposes that all remote condensing and remote compressor ice makers be tested with a dedicated remote condensing unit and report the energy use of the ice-making mechanism, the compressor, and the condenser.

DOE requests comment on the proposal to require testing of all remote condensing ice makers with a dedicated remote condensing unit and reporting of ice-making mechanism, compressor, and condenser energy use.

6. Provide a Test Method for Modulating Capacity Automatic Commercial Ice Makers

An ice maker could be designed for multiple capacity levels, either using a single compressor capable of multiple or variable capacities, or using multiple compressors. This would be attractive since ice makers operate at full capacity for only a small portion of the time, if at all. Such a system could produce ice more efficiently at a lower capacity level because there would be more surface area available relative to the mass flow of refrigerant. There is no evidence that any such system has been sold or tested anywhere in the world. However, the basic concept is illustrated by the current use of different capacity models using the same heat exchangers with different capacity compressors. For such product pairs, the lower capacity machine is generally more efficient.

At the Framework Document public meeting, the American Council for an Energy-Efficient Economy (ACEEE), represented by Adjuvant Consulting, stated that two-stage or modulating compressors should not be eliminated from the group of design options. (Adjuvant Consulting, No. 0016 at pp. 78–79)

While multiple or variable capacity systems (*i.e.,* a modulating system) could become a design feature in the future, DOE recognizes that there are currently no commercialized products or prototypes available. However, DOE believes that a test procedure can be developed that allows measurement of the efficiency benefits of variable capacity technologies. Multiple capacity systems can be rated under the current test procedure at their maximum capacity rating. This will continue to be an option for showing compliance with DOE energy conservation standards. Also, an optional test procedure to capture the energy and water efficiency benefits of modulating capacity systems could be developed to allow systems that use a variable or multiple capacity system to claim those savings. Incorporating a test method for modulating capacity systems into the test procedure could provide an opportunity for and incentivize future development of such systems that could use this technology to obtain a higher efficiency rating. This is valuable for manufacturers that may wish to qualify units for voluntary efficiency programs, such as the Consortium for Energy Efficiency (CEE) or ENERGY STAR.®

To capture the energy and water use of variable or multiple capacity systems, a test procedure would need to measure energy use in kilowatt-hours per 100 pounds of ice and water use in gallons per 100 pounds of ice of at least two production rates and calculate weighted average energy use and water use values. DOE proposes that, for modulating capacity systems, testing can be done at the maximum and minimum capacity settings. These values would then be averaged to determine the energy consumption and condenser water consumption of the ice maker. While equal weighting is perhaps not representative of actual utilization factors in the field, DOE would need additional data to develop a better informed estimate.

In addition, DOE proposes that this test procedure for multiple or modulating capacity systems be optional. Only testing at the maximum capacity setting would be required for modulating capacity systems. However, if a manufacturer wished to show increased energy savings due to the installation of variable capacity technologies, this test procedure also may be used to show compliance with the energy conservation standard.

DOE requests comment on the proposal to allow for optional test procedure for modulating capacity automatic commercial ice makers. Specifically, DOE requests comment on the weighting of the energy consumption at the minimum and maximum capacity settings.

7. Discontinue Use of a Clarified Energy Rate Calculation

The current DOE test procedure references ARI Standard 810–2003, with an amended calculation for determining the energy consumption rate for the purposes of compliance with DOE's energy conservation standards. ARI Standard 810–2003 references ASHRAE Standard 29–1988 (RA2005) as the method of test for this equipment, including the equations for calculating the energy consumption rate per 100

pounds of ice produced. In the 2006 test procedure proposed rule, DOE found the language in ASHRAE Standard 29–1988 (RA 2005) unclear and proposed that the energy consumption rate be normalized to 100 pounds of ice instead and be determined as follows. 71 FR 71340, 71350 (Dec. 8, 2006).

$$\text{Energy Consumption Rate (per 100 lbs ice)} = \frac{\text{Energy Consumed During Testing (kWh)}}{\text{Mass of Ice Collected During Testing (lbs)}} \times 100\%$$

At the September 2006 public meeting for the 2006 test procedure proposed rule, ARI commented in support of DOE's proposal to adopt ARI Standard 810–2003 as the test procedure for automatic commercial ice makers with the revised energy use rate equation. However, ARI further stated that the ARI and ASHRAE standards have been used without the clarification. 71 FR at 71351 (Dec. 8, 2006).

The equation contained in ASHRAE Standard 29–1988 (RA 2005), as adopted, directs that the energy consumption shall be calculated as the weight of ice produced during three specified time periods divided by the power consumed during those same three time periods. The specified time periods are defined as three complete cycles for batch type ice makers and three 14.4-minute periods for continuous type ice makers. The verbatim equation from ASHRAE Standard 29–1988 (RA 2005) is as follows:

$$\text{kWh}/_{\text{100 lb ice}} = 8.^{4a}/_{8}.2a \times 100$$

In the above equation, kWh/100 lb ice refers to the desired energy consumption rate normalized per 100 pounds of ice produced; 8.4a refers to the section of the standard that describes the data to be recorded for the calculation of energy consumption, in this case the energy input in kilowatt-hours for the same periods prescribed for measurement of capacity; and 8.2a refers to the data to be recorded for the capacity test, specifically weight in pounds of ice produced for three prescribed periods of collection. This equation did not change in the update of ASHRAE Standard 29–1988 (RA 2005) to the most recent ASHRAE Standard 29–2009.

DOE concludes that the existing equation in ASHRAE Standard 29–2009 is interpreted differently than specified by the amended DOE equation for calculation of energy consumption rate. ASHRAE Standard 29–2009 directs that the energy consumption rate be calculated for each of the three periods specified in the test method as the power consumption for that period divided by the mass of ice collected in that period, as shown below.

For i = 1 to 3:

$$\text{Energy Use Rate}_i \left(\text{kWh}/_{\text{100 lb ice}}\right) = \frac{\text{Power input during period i (kWh)}}{\text{Mass of ice collected in period i (lb of ice)}}$$

This result is then averaged and multiplied by 100 to obtain an average energy consumption rate:

$$\text{Energy Use Rate} \left(\text{kWh}/_{\text{100 lb ice}}\right) = \frac{\sum_{i=1}^{3} \text{Energy Use Rate}_i \left(\frac{\text{kWh}}{\text{lb}} \text{ice}\right)}{3} \times 100$$

The previous concern with ambiguity around the energy consumption rate equation was based on the possibility that manufacturers might discard some ice captured during the periods specified in the capacity test and then divide the total energy use, for all three periods, by a lesser volume of ice, thereby overstating the energy consumption of the equipment. 71 FR 42178, 42184 (July 25, 2006). Although the text in ASHRAE Standard 29–2009 did not change between the 1988 and 2009 versions, DOE has reexamined the energy consumption rate calculations contained in the ASHRAE Standard 29–2009 test procedures and concluded that the procedure is clear and no ambiguity exists. The ASHRAE Standard 29–2009 test procedure clearly states that the mass of ice collected will be recorded for each of the three complete periods specified. ASHRAE Standard 29–2009 also states that the power consumption will be recorded for the same three periods. DOE believes that this statement is clear and does not provide opportunity for misinterpretation. Additionally, DOE acknowledges that this method may show more consistency in the average energy use rate calculation and, further, is the method typically used in industry today. DOE proposes to remove the clarification for the calculation of energy consumption rate in this rulemaking.

DOE requests comment on its proposal to incorporate AHRI Standard 810–2007, with reference to ASHRAE Standard 29–2009 as the method of test, without specification or clarification of the calculation for energy consumption rate.

B. Response to Additional Comments Raised by Interested Parties at the Framework Document Public Meeting

The following sections contain responses to comments received at the

December 16, 2011 Framework Document public meeting that were not specifically addressed in the discussion of test procedure revisions, including:

1. Treatment of Tube Type Ice Machines
2. Quantification of Auxiliary Energy Use
3. Measurement of Storage Bin Effectiveness
4. Establishment of a Metric for Potable Water Used in Making Ice
5. Standardization of Water Hardness for Measurement of Potable Water Used in Making Ice
6. Testing of Batch Type Ice Makers at the Highest Purge Setting

1. Treatment of Tube Type Ice Machines

At the Framework Document public meeting, the categorization of tube type ice machines was discussed. Scotsman commented that tube ice could be treated as a batch process in the same equipment class as cube ice. (Scotsman, No. 0016 at p. 43) Manitowoc Ice agreed, but cautioned against lumping them all together because of the different consumer applications and utilities, such as the larger footprint of tube type ice machines. (Manitowoc Ice, No. 0016 at pp. 49–50 and 53–54) Manitowoc further commented that tube ice can be tested under the currently available industry test procedures, but should be treated as a separate equipment class. (Manitowoc Ice, No. 0016 at p. 50)

Tube type automatic commercial ice makers produce cube, flake, or nugget ice. In making cube ice, they use a batch process, as do conventional cube ice machines. Because tube ice has lower clarity than cube ice from conventional machines, tube ice may have a different market. There are no tube ice machines of less than 2,000 pounds of ice per 24 hours on the market. Manufacturers are currently using the existing test procedure for tube ice machines.

DOE agrees with the comments from Scotsman and Manitowoc Ice regarding categorization of tube type ice machines, and finds that tube type machines can be tested under the currently available test procedures. Therefore, DOE proposes to clarify in the DOE test procedure that tube and other batch technologies can be tested by the current industry test procedures using the cube type test method.

2. Quantification of Auxiliary Energy Use

In assessing the operation and energy consumption of automatic commercial ice makers, DOE determined that there are potential phases of operation during the non-ice making periods that currently are not accounted for in the test procedure. Although DOE is not required to quantify auxiliary energy use, DOE is not prevented from including them in the test procedures and energy conservations standards for automatic commercial ice makers, if warranted. DOE examined the significance of these auxiliary energy loads for automatic commercial ice makers to determine if incorporation into the test procedure and energy conservation standard was justified.

At the Framework Document public meeting, Manitowoc Ice mentioned that standby energy use due to sensors could represent an electrical load as high as 10 watts in some units. (Manitowoc Ice, No. 0016 at p. 143) Manitowoc Ice further stated that although such standby electrical energy consumption exists in some cases, the overall energy consumption was negligible and does not warrant consideration in the test procedure or standard rulemakings. (Manitowoc Ice, No. 0016 at pp. 140–141)

DOE performed a preliminary assessment to corroborate the estimations of interested parties and found that energy use due to electrical sensors during non-ice-making periods contributed 1 percent or less to the total energy consumption of the ice maker. If DOE chose to quantify this load, a measurement of electrical consumption during non-ice-making times could be incorporated into the test procedure. Given the small magnitude of this energy use, DOE believes quantification of auxiliary energy use during non-ice-making periods is not justified. Note that the provision within EISA that standby mode energy usage must be quantified (42 U.S.C. 6295(gg)(2)(A)) only appears in the section that pertains to consumer products, and therefore does not apply to commercial equipment.

DOE requests comment on its determination that an additional test procedure to quantify auxiliary energy use during non-ice-making periods is not justified.

3. Measurement of Storage Bin Effectiveness

Energy use that occurs to replace ice that has melted in the ice storage bin prior to dispensing or use is currently quantified in the Canadian and Australian standards and test procedures for automatic commercial ice makers. In addition, Natural Resources Canada (NRCan) has incorporated storage bin effectiveness into its energy efficiency standard as a separate metric that applies only to self-contained automatic commercial ice makers. The NRCan standard for storage bin effectiveness ranges from 60 to 80 percent, depending on capacity of the ice storage bin.[4] If this range is representative of ice storage bin effectiveness, meltage could represent approximately 10 percent additional ice production, and thus 10 percent additional energy use, per 24 hours. Storage bin effectiveness will similarly impact condenser water use.

At the Framework Document public meeting, many manufacturers stated that energy use associated with ice storage was outside the scope of this rulemaking and the ice storage compartments were not refrigerated on any ice makers. (AHRI, No. 0016 at p. 84; Scotsman, No. 0016 at p. 84; Manitowoc Ice, No. 0016 at pp. 84–85) Manufacturers also commented that including ice storage bin effectiveness for only some ice makers would not be fair or provide an accurate comparison. (Manitowoc Ice, No. 0016 at p. 86)

A common metric used to quantify ice meltage in the ice storage bin is storage bin effectiveness. Storage bin effectiveness is defined as a theoretical expression of the fraction of ice that under specific rating conditions would be expected to remain in the ice storage bin 24 hours after it is produced, with units of percent. AHRI has a standard, AHRI 820–2000, that describes a test method for quantifying the effectiveness of ice storage bins. This method, or a similar method, is also used in the Canadian and Australian test procedures for automatic commercial ice makers to quantify ice storage bin effectiveness.

While quantifying the additional energy use associated with ice storage losses could contribute to additional energy savings, doing so would result in an inconsistency between the standards for self-contained and remote condensing ice makers or ice-making heads, and thus an increased burden for manufacturers of self-contained units. DOE believes that the additional burden associated with testing storage bin effectiveness is not warranted at this time. As such, DOE will not include a quantification of meltage in the storage bin in this rulemaking.

DOE requests comments or data related to the impact of storage bin effectiveness on the energy and water consumption of automatic commercial ice makers. Specifically, DOE requests comment on the appropriate test method and metric for storage bin effectiveness and the burden associated with adopting such a test method.

[4] CSA C742–08. *Energy Performance of automatic icemaker and storage bins.* Canadian Standards Association, Mississauga, Ontario, Canada.

4. Establishment of a Metric for Potable Water Used to Produce Ice

The current DOE energy conservation standard for automatic commercial ice makers established metrics of energy use per 100 pounds of ice for all equipment classes, and condenser water use per 100 pounds of ice produced for water-cooled models only. The current DOE test procedure references ARI Standard 810–2003 as the test procedure to calculate condenser water use. The updated AHRI Standard 810–2007 contains the same calculation for condenser water use.

However, automatic commercial ice makers consume potable water to produce ice as well. AHRI Standard 810–2007 defines "potable water use rate" as the amount of potable water used in making ice, including "dump" water. AHRI Standard 810–2007 defines "dump water" as the water drainage from an ice maker to control the clarity of ice or to prevent scaling. In this document, potable water used to produce ice will refer to the water that leaves the machine in the form of ice as well as any dump water or other excess that is expelled from the machine during the ice-making process.

While there is generally a positive relationship between energy use and potable water use, there may be a point at which the relationship between potable water use and energy consumption reverses. At the ACIM Framework Document public meeting, Manitowoc Ice and Scotsman both indicated that, from a technology standpoint, reducing potable water use generally improves energy efficiency, but if potable water use is reduced beyond a certain threshold, efficiency could decrease due to scaling. (Manitowoc Ice, No. 0016 at pp. 94–95; Scotsman, No. 0016 at p. 94) Larger amounts of dump water can benefit ice quality but increase overall potable water consumption.

Including potable water used to produce ice in the overall water metric could produce significant water savings and additional energy savings. At the ACIM Framework Document public meeting, the Appliance Standards Awareness Project (ASAP) indicated support for a potable water use metric, noting that they have seen significant improvements in the industry in lowering water consumption, but that there is still room for additional innovation. (ASAP, No. 0016 at pp. 15–16 and p. 93) The current U.S. Environmental Protection Agency ENERGY STAR standard for automatic ice makers limits water use in air-cooled machines to less than 25 gallons per 100 pounds of ice for remote condensing automatic commercial ice makers and 35 gallons per 100 pounds of ice for self-contained equipment.[5]

Both the previously referenced ARI Standard 810–2003 and the updated AHRI Standard 810–2007 provide a test method to measure the amount of water used in making ice in units of gallons per 100 pounds of ice.

At the Framework Document public meeting, DOE suggested the possibility of defining a new metric of "total water use" in gallons per 100 pounds of ice. Total water use was proposed to be calculated as the sum of the condenser water use and the potable water used to produce ice. Manitowoc Ice and Scotsman commented that potable water use and condenser water use should be kept as separate metrics because of their different uses and magnitudes. (Manitowoc Ice, No. 0016 at p. 97; Scotsman, No. 0016 at p. 145)

Following the ACIM Framework document public meeting, DOE examined the statutory authority provided in EPCA for the establishment of test procedures and energy and water conservation standards for automatic commercial ice makers and determined that DOE does not have a direct mandate from Congress to regulate potable water use under 42 U.S.C. 6313. Specifically, EPCA prescribes standards for condenser water use in cube type ice makers and explicitly states that condenser water use should not include potable water used to make ice. As such, DOE proposes not to regulate potable water used in making ice in this rulemaking.

DOE requests comment on its decision not to measure or regulate potable water used in making ice.

5. Standardization of Water Hardness for Measurement of Potable Water Used in Making Ice

Differences in water hardness can cause ice machines to use more or less energy and water. Harder water has a greater concentration of total dissolved solids and chemical ions, which affects the thermal properties of the water. Harder water depresses the freezing temperature of water and results in increased energy use to produce the same quantity of ice. In addition, harder water requires a higher purge setting to prevent scaling and a decrease in ice clarity.

At the Framework Document public meeting, ACEEE stated that it may be necessary to standardize water hardness in the test procedure due to the effects of water hardness on water and energy consumption. (Adjuvant Consulting, No. 0016 at pp. 96 and 102) However, Scotsman commented that water hardness will not dramatically affect energy consumption or performance on a short-term test and did not need to be standardized. (Scotsman, No. 0016 at p. 160)

While DOE recognizes that differences in water hardness can affect the energy and water consumption of an automatic commercial ice maker, DOE believes that there is still uncertainty in the causal relationship between total dissolved solids, ion concentration, and ice maker performance. Specifically, it is not clear whether total dissolved solids or ion concentration is more significant in impacting energy performance and reliability of an ice maker. As such, an appropriate standardized water hardness for use in a test procedure cannot be accurately specified, and even if it could, applying such a test procedure would increase the testing burden for manufacturers. Doing so would require: Additional data or information regarding (1) The relationship between total dissolved solids, ion concentration, and energy and water use; (2) the magnitude of these effects; and (3) specific testing methodologies that would produce repeatable results. Given the uncertainty in the relationship between water hardness and water and energy consumption, DOE is unable to conclude that this metric is either technically feasible or economically justified. In addition, water hardness would primarily impact potable water used in making ice, which DOE is not regulating in this rulemaking. As a result, DOE proposes not to standardize water hardness in the test procedure at this time, but requests additional data that would support evaluation of the need for a standardized water hardness test.

6. Test Batch Type Ice Makers at the Highest Purge Setting

Currently, automatic commercial ice makers are required to meet specific maximum allowable condenser water use levels, depending on equipment type, cooling type (water or air), and harvest rate (pounds of ice per 24-hour period). The water usage of automatic commercial ice makers varies by application, equipment type, and size.

At the Framework Document public meeting, ASAP cautioned that installers may install cube type ice makers with a purge setting in the highest water use position, which may result in

[5] U.S. Environmental Protection Agency. *Commercial Ice Machines Key Product Criteria.* 2008. (Last accessed March 5, 2011.) *http://www.energystar.gov/index.cfm?c=comm_ice_machines.pr_crit_comm_ice_machines.*

substantially higher water consumption in the field compared to the manufacturer tested water consumption. (ASAP, No. 0016 at p. 16)

Although both AHRI 810–2007 and ASHRAE Standard 29–2009 require that the ice makers be set up pursuant to a manufacturer's instruction, DOE acknowledges that this may not capture the maximum potable water consumption of the unit or, perhaps, the most common water consumption setting of the unit, as indicated by ASAP. However, DOE has neither the data to validate nor the authority to regulate how ice makers are typically installed in the field.

While testing units with their purge controls in the maximum water use position will allow the test procedure to capture the maximum potable water use and energy use of automatic commercial ice makers and, thus, prevent ice makers from being sold that have purge settings that would exceed the maximum water use standard, the level of purge water primarily impacts potable water used in making ice. As DOE is proposing not to regulate potable water used in making ice in this rulemaking, DOE does not believe it is justified to require testing of automatic commercial ice makers at the highest purge setting. Instead, DOE proposes to continue to require testing of automatic commercial ice makers in accordance with AHRI 810–2007 and ASHRAE Standard 29–2009. DOE will continue to investigate the magnitude and effects of this issue by gathering data related to national water hardness, the difference between manufacturer specified and maximum purge settings, and the way ice makers are typically installed in the field.

DOE requests comment on testing units at the highest water consumption purge setting. Specifically, DOE requests comment on the difference in energy and water consumption when tested at the maximum purge setting versus as specified by the manufacturer.

IV. Regulatory Review

A. Review Under Executive Order 12866

The Office of Management and Budget (OMB) has determined that test procedure rulemakings do not constitute "significant regulatory actions" under section 3(f) of Executive Order 12866, "Regulatory Planning and Review," 58 FR 51735 (Oct. 4, 1993). Accordingly, this proposed action was not subject to review under the Executive Order by the Office of Information and Regulatory Affairs (OIRA) in the OMB.

B. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires preparation of an initial regulatory flexibility analysis (IRFA) for any rule proposed for public comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As required by Executive Order 13272, "Proper Consideration of Small Entities in Agency Rulemaking," 67 FR 53461 (Aug. 16, 2002), DOE published procedures and policies on February 19, 2003, so that the potential impacts of its rules on small entities are properly considered during the rulemaking process. 68 FR 7990. DOE has made its procedures and policies available on the Office of the General Counsel's Web site: *http://www.gc.doe.gov.*

For manufacturers of automatic commercial icemakers, the Small Business Administration (SBA) has set a size threshold, which defines those entities classified as "small businesses" for the purposes of the statute. DOE used the SBA's size standards published on January 31, 1996, as amended, to determine whether any small entities would be required to comply with the rule. 61 FR 3280, 3286, as amended at 67 FR 3041, 3045 (Jan. 23, 2002) and at 69 FR 29192, 29203 (May 21, 2004); see also 65 FR 30836, 30850 (May 15, 2000), as amended at 65 FR 53533, 53545 (Sept. 5, 2000). The size standards are codified at 13 CFR part 121. The standards are listed by North American Industry Classification System (NAICS) code and industry description and are available at *http://www.sba.gov/idc/groups/public/documents/sba_homepage/serv_sstd_tablepdf.pdf.* Automatic commercial ice maker manufacturers are classified under NAICS 333415, "Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing." The SBA sets a threshold of 750 employees or less for an entity to be considered as a small business for this category.

In this NOPR, DOE proposes to update the industry test procedures referenced in the current DOE test procedure for automatic commercial ice makers. DOE is also proposing amendments to:

1. Expand the scope of the test procedure to include equipment with capacities from 50 to 4,000 pounds of ice per 24 hours;

2. Provide test methods for all batch type and continuous type ice makers;

3. Standardize the measurement of energy and water use for continuous type ice makers with respect to ice quality;

4. Specify the test method for remote condensing automatic commercial ice makers;

5. Specify an optional test method for modulating capacity ice makers; and

6. Discontinue the use of a clarified energy use rate calculation and instead calculate energy use per 100 pounds of ice of ice as specified in ASHRAE Standard 29.

Changes to the existing rule as described above have potential impacts on manufacturers who will be required to revise their current testing procedures for compliance. DOE has analyzed these impacts on small businesses and presents its findings below.

DOE examined the potential impacts of the additional testing procedures proposed in this rulemaking under the provisions of the Regulatory Flexibility Act and the procedures and policies published on February 19, 2003. In using these procedures, DOE conducted a more focused inquiry into small business manufacturers of products covered by this rulemaking. During its market survey, DOE used all available public information to identify potential small manufacturers. DOE's research involved the review of industry trade association membership directories (including the Association of Home Appliance Manufacturers), product databases (*e.g.,* Federal Trade Commission, the Thomas Register, California Energy Commission (CEC), and ENERGY STAR databases), individual company Web sites, and marketing research tools (*e.g.,* Dunn and Bradstreet reports) to create a list of companies that manufacture or sell automatic commercial ice makers covered by this rulemaking. DOE reviewed this data to determine whether the entities met the SBA's definition of a small business manufacturer of automatic commercial icemakers and screened out companies that do not offer products covered by this rulemaking, do not meet the definition of a "small business," or are foreign owned and operated.

DOE initially identified 24 distinct brands of automatic commercial ice makers available in the U.S. sold by a variety of distributors, wholesalers, and retail establishments. Of these 24 companies, 10 were determined to be foreign owned or outside the scope of the small business classification. Of the remaining 14 entities, 5 manufacture ice makers for residential uses and one company has filed for bankruptcy. Thus, DOE identified 8 manufacturers that

produce covered products and can be considered small businesses. From its analysis, DOE determined the expected impacts of the rule on affected small businesses and whether an IRFA was needed (*i.e.,* whether DOE could certify that this rulemaking would not have a significant economic impact on a substantial number of small entities).

Table IV.1 stratifies the small businesses according to their number of employees. The smallest company has 5 employees and the largest company 175 employees. The majority of the small businesses affected by this rulemaking (75 percent) have fewer than 50 employees and all but one of the small businesses have fewer than 100 employees.

TABLE IV.1—SMALL BUSINESS SIZE BY NUMBER OF EMPLOYEES

Number of employees	Number of small businesses	Percentage of small businesses	Cumulative percentage
1–10	3	38	38
11–20	0	0	38
21–30	2	25	63
31–40	1	13	75
41–50	0	0	75
51–60	0	0	75
61–70	0	0	75
71–80	0	0	75
81–90	1	13	88
91–100	0	0	88
101–110	0	0	88
111–120	0	0	88
121–130	0	0	88
131–140	0	0	88
141–150	0	0	88
150–160	0	0	88
160–170	0	0	88
170–180	1	13	100

Currently, only automatic commercial ice makers that produce cube type ice with capacities between 50 and 2,500 pounds of ice per 24 hours must be tested using the DOE test procedure to show compliance with energy conservation standards established in EPACT 2005. Automatic commercial ice makers with larger capacities, batch type ice makers that produce other than cube type ice, and continuous type ice makers of any capacity have not been subject to this rule. This rulemaking would institute new testing requirements for automatic commercial batch type ice makers that produce cube type ice with capacities between 2,500 and 4,000 pounds of ice of ice per 24 hours, batch type ice makers that produce other than cube type ice, and continuous type ice makers of all capacities. The costs to manufacturers associated with these testing procedures were estimated to range from $5,000 to $7,500 per tested model. This estimate is based on input from manufacturers and third party testing labs for completing a test as specified by AHRI Standard 810–2007 on automatic commercial ice makers. Additional testing requirements will be mandatory for continuous type ice makers to assess ice quality. Discussion and quantification of these two additional rules is provided below.

The additional test methods required for continuous type ice makers will standardize energy and water use with respect to ice quality. This test will consist of performing an additional calorimetry test, as specified in ASHRAE Standard 29–2009. DOE estimates that performing this test will require 2 additional hours of laboratory time, including the time to perform necessary calculations, per unit. Costs associated with the calorimetry test have been estimated by DOE to equal approximately 10 percent of the AHRI 810 test or $500 to $740. These costs would not include those associated with transportation, assuming that the unit would be analyzed at the same time as the required AHRI 810 test. DOE estimates that 28 percent of all automatic commercial ice makers would be subject to this additional test procedure. This estimate was developed based on publicly available listings of automatic commercial ice makers (*e.g.,* AHRI and CEC databases) and manufacturer Web sites.

The primary cost for small businesses under this rulemaking would result from the aforementioned additional testing requirements. These costs were applied to the number of existing designs subject to testing requirements outlined in this rulemaking, which DOE estimated at 30 models. Further, DOE assumes that each company would introduce a new base model in each year (total of 8 new models for testing) of the 5-year (2015–2019) analysis time horizon. Thus, costs are most significant in the first year following implementation of the new testing requirements as existing models are tested but decline in future years as the requirements are applied only to new models. Two scenarios were developed to reflect the low- and high-end costs estimates for each test presented previously in this section. Based on these assumptions, testing costs for small businesses were estimated at $154,200 to $228,216 in 2015 and $41,120 to $60,858 in 2016 through 2019.

In addition to testing costs, DOE estimates an additional $5,147 in review and filing costs over the 5-year analysis time horizon. DOE bases its estimate on the assumptions that it would take an engineer 2 hours to communicate with the testing laboratory, review test results, prepare adequate documentation, and file the report. The average hourly salary for an engineer completing these tasks is estimated at $38.74.[6] Fringe benefits are estimated at 30 percent of total compensation, which brings the hourly costs to employers associated with review and filing of reports to $55.34.[7]

[6] U.S. Department of Labor, Bureau of Labor Statistics. 2009. National Occupational Employment and Wage Estimates. Washington, DC.

[7] U.S. Department of Labor, Bureau of Labor Statistics. 2010. Employer Costs for Employee

Continued

The incremental costs incurred by small businesses to implement the requirements of this rulemaking are summarized in Table IV.2. Total costs to small businesses are estimated at $323,827 to $476,793 over the 5-year analysis time horizon. The present value costs of this rulemaking on small businesses are estimated at $227,512 to $334,982, or $28,439 to $41,873 per small business. Annual costs are discounted using a 7 percent real discount rate, as recommended in OMB Circular A–94.

TABLE IV.2—ANNUAL COSTS OF COMPLIANCE FOR SMALL BUSINESSES (2015–2019)

Year	Testing costs		Review/filing costs	Total costs		Discounted costs	
	Low end	High end		Low end	High end	Low end	High end
2015	$154,200	$228,216	$2,490	$156,690	$230,706	$119,538	$176,005
2016	41,120	60,858	664	41,784	61,522	29,791	43,864
2017	41,120	60,858	664	41,784	61,522	27,843	40,995
2018	41,120	60,858	664	41,784	61,522	26,021	38,313
2019	41,120	60,858	664	41,784	61,522	24,319	35,806
Totals	154,200	228,216	2,490	156,690	230,706	119,538	176,005
Average Cost per Small Business						28,439	41,873

DOE seeks comment on its estimated additional cost of testing due to the new requirements for testing presented in this NOPR. Specifically, DOE seeks comment on the impacts of the additional cost of testing on small manufacturers.

The findings of the DOE analysis suggest that small business manufacturers of automatic commercial ice makers would not be disproportionally impacted by the proposed energy conservation standard, relative to their competition. Testing procedures are required for each base model and only models produced by manufacturers that are covered by this rule would be required to be tested. Research conducted by DOE indicates that the small entities affected by this regulation produce fewer automatic commercial ice makers, on average, when compared to larger businesses. Small businesses manufacture, on average, 4 base models covered by this rule, while large businesses manufacture an average of 34 affected base models. Thus, small businesses are subject to fewer testing procedures for base models, and testing costs for large businesses are estimated to be approximately 8.5 times higher than costs for small businesses. DOE has, therefore, concluded that large and small entities would incur a proportional distribution of costs associated with the new testing requirements.

DOE conducted an analysis to measure the testing cost burden relative to the net profits of small manufacturers. The analysis utilized financial data gathered from other public sources to derive the average annual net profits of the small businesses impacted by this rule. The average industry net profit margin was estimated at 7.74 percent.[8] Net profits represent gross profits minus all overhead costs and expenditures. The annualized costs associated with this rulemaking were then compared to estimated net profits to determine the magnitude of the cost impacts of this regulation on small businesses. Based on this analysis, DOE estimates that the total increase in testing burden amounts to approximately 0.8 percent or 1.2 percent of low and high end cost estimates, respectively. DOE further estimates that the cost burden of the testing procedures is equal to approximately 0.1 percent of average annual sales ($8.9 million) per small entity affected by this regulation. DOE concludes that these values do not represent a significant economic impact.

Based on the criteria outlined above, DOE has determined that the proposed testing procedure amendments would not have a "significant economic impact on a substantial number of small entities," and the preparation of a regulatory flexibility analysis is not warranted. DOE will transmit the certification and supporting statement of factual basis to the Chief Counsel for Advocacy of the Small Business Administration for review under 5 U.S.C. 605(b).

DOE seeks comment on its reasoning that the proposed test procedure changes would not have a significant impact on a substantial number of small entities.

C. Review Under the Paperwork Reduction Act of 1995

Manufacturers of automatic commercial ice makers must certify to DOE that their equipment complies with any applicable energy conservation standard. In certifying compliance, manufacturers must test their equipment according to the DOE test procedure for automatic commercial ice makers, including any amendments adopted for that test procedure. DOE has proposed regulations for the certification and recordkeeping requirements for all covered consumer products and commercial equipment, including automatic commercial ice makers. 75 FR 56796 (Sept. 16, 2010). The collection-of-information requirement for the certification and recordkeeping is subject to review and approval by OMB under the Paperwork Reduction Act (PRA). This requirement has been submitted to OMB for approval. Public reporting burden for the certification is estimated to average 20 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Public comment is sought regarding whether this proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; the accuracy of the burden estimate; ways to enhance the quality, utility, and clarity of the information to be collected; and ways to minimize the

Compensation—Management, Professional, and Related Employees. Washington, DC.

[8] BizStats. *Free Business Statistics and Financial Ratios. Industry Income-Expense Statements.* (Last accessed February 17, 2011.) <*http://www.bizstats.com/corporation-industry-financials/manufacturing-31/machinery-manufacturing-333/ventilation-heating-a-c-and-commercial-refrigeration-equipment-333410/show*>.

burden of the collection of information, including through the use of automated collection techniques or other forms of information technology. Send comments on these or any other aspects of the collection of information to Charles Llenza (see **ADDRESSES**) and by e-mail to *Christine_J._Kymn@omb.eop.gov.*

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

D. Review Under the National Environmental Policy Act

In this proposed rule, DOE proposes amendments to test procedures that may be used to implement future energy conservation standards for automatic commercial ice makers. DOE has determined that this rule falls into a class of actions that are categorically excluded from review under the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*). The rule is covered by Categorical Exclusion A5, for rulemakings that interpret or amend an existing rule without changing the environmental effect, as set forth in DOE's NEPA regulations in appendix A to subpart D, 10 CFR part 1021. This rule would not affect the quality or distribution of energy usage and, therefore, would not result in any environmental impacts. Accordingly, neither an environmental assessment nor an environmental impact statement is required.

E. Review Under Executive Order 13132

Executive Order 13132, "Federalism," 64 FR 43255 (Aug. 4, 1999), imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have federalism implications. The Executive Order requires agencies to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the States and to carefully assess the necessity for such actions. The Executive Order also requires agencies to have an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications. On March 14, 2000, DOE published a statement of policy describing the intergovernmental consultation process it will follow in the development of such regulations. 65 FR 13735. DOE has examined today's proposed rule and has determined that it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. EPCA governs and prescribes Federal preemption of State regulations as to energy conservation for the equipment that is the subject of today's proposed rule. States can petition DOE for a waiver of such preemption to the extent, and based on criteria, set forth in EPCA. (42 U.S.C. 6297) No further action is required by Executive Order 13132.

F. Review Under Executive Order 12988

With respect to the review of existing regulations and the promulgation of new regulations, section 3(a) of Executive Order 12988, "Civil Justice Reform," 61 FR 4729 (Feb. 7, 1996), imposes on Federal agencies the general duty to adhere to the following requirements: (1) Eliminate drafting errors and ambiguity; (2) write regulations to minimize litigation; (3) provide a clear legal standard for affected conduct rather than a general standard; and (4) promote simplification and burden reduction. Section 3(b) of Executive Order 12988 specifically requires that Executive agencies make every reasonable effort so that the regulation: (1) Clearly specifies the preemptive effect, if any; (2) clearly specifies any effect on existing Federal law or regulation; (3) provides a clear legal standard for affected conduct while promoting simplification and burden reduction; (4) specifies the retroactive effect, if any; (5) adequately defines key terms; and (6) addresses other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. Section 3(c) of Executive Order 12988 requires Executive agencies to review regulations in light of applicable standards in sections 3(a) and 3(b) to determine whether they are met or it is unreasonable to meet one or more of them. DOE has completed the required review and determined that, to the extent permitted by law, the proposed rule meets the relevant standards of Executive Order 12988.

G. Review Under the Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA; Pub. L. 104–4) requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and Tribal governments and the private sector. For proposed regulatory actions likely to result in a rule that may cause expenditures by State, local, and Tribal governments in the aggregate or by the private sector of $100 million or more in any one year (adjusted annually for inflation), section 202 of UMRA requires a Federal agency to publish estimates of the resulting costs, benefits, and other effects on the national economy. (2 U.S.C. 1532(a), (b)) The UMRA also requires a Federal agency to develop an effective process to permit timely input by elected officers of State, local, and Tribal governments on a proposed "significant intergovernmental mandate" and requires an agency plan for giving notice and opportunity for timely input to potentially affected small governments before establishing any requirements that might significantly or uniquely affect small governments. On March 18, 1997, DOE published a statement of policy on its process for intergovernmental consultation under UMRA. 62 FR 12820. (This policy is also available at *http://www.gc.doe.gov.*) Today's proposed rule contains neither an intergovernmental mandate nor a mandate that may result in the expenditure of $100 million or more in any year, so these requirements do not apply.

H. Review Under the Treasury and General Government Appropriations Act, 1999

Section 654 of the Treasury and General Government Appropriations Act, 1999 (Pub. L. 105–277) requires Federal agencies to issue a Family Policymaking Assessment for any proposed rule that may affect family well-being. Today's proposed rule would not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is unnecessary to prepare a Family Policymaking Assessment.

I. Review Under Executive Order 12630

DOE has determined, under Executive Order 12630, "Governmental Actions and Interference with Constitutionally Protected Property Rights," 53 FR 8859 (March 15, 1988), that this proposed regulation, if promulgated as a final rule, would not result in any takings that might require compensation under the Fifth Amendment to the U.S. Constitution.

J. Review Under the Treasury and General Government Appropriations Act, 2001

Section 515 of the Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516, note) provides for agencies to review most disseminations of information to the public under guidelines established by each agency pursuant to general

guidelines issued by OMB. The OMB's guidelines were published in 67 FR 8452 (Feb. 22, 2002), and DOE's guidelines were published in 67 FR 62446 (Oct. 7, 2002). DOE has reviewed today's proposed rule under the OMB and DOE guidelines and has concluded that it is consistent with applicable policies in those guidelines.

K. Review Under Executive Order 13211

Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use," 66 FR 28355 (May 22, 2001), requires Federal agencies to prepare and submit to OIRA, within OMB, a Statement of Energy Effects for any proposed significant energy action. A "significant energy action" is defined as any action by an agency that promulgated or is expected to lead to promulgation of a final rule, and that (1) Is a significant regulatory action under Executive Order 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (3) is designated by the Administrator of OIRA as a significant energy action. For any proposed significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use should the proposal be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use.

Today's regulatory action to amend the test procedures for measuring the energy efficiency of automatic commercial ice makers is not a significant regulatory action under Executive Order 12866. Moreover, it would not have a significant adverse effect on the supply, distribution, or use of energy, nor has it been designated as a significant energy action by the Administrator of OIRA. Therefore, it is not a significant energy action, and, accordingly, DOE has not prepared a Statement of Energy Effects.

L. Review Under Section 32 of the Federal Energy Administration Act of 1974

Under section 301 of the Department of Energy Organization Act (Pub. L. 95–91), DOE must comply with section 32 of the Federal Energy Administration Act of 1974 (Pub. L. 93–275), as amended by the Federal Energy Administration Authorization Act of 1977 (15 U.S.C. 788). Section 32 provides in relevant part that, where a proposed rule authorizes or requires use of commercial standards, the notice of proposed rulemaking must inform the public of the use and background of such standards. In addition, section 32(c) requires DOE to consult with the Attorney General and the Chairman of the Federal Trade Commission concerning the impact of the commercial or industry standards on competition.

On December 8, 2006, DOE published a final rule that adopted the test procedure specified ARI Standard 810–2003, "Performance Rating of Automatic Commercial Ice-Makers," section 3, "Definitions," section 4, "Test Requirements," and section 5, "Rating Requirements," with a revised method for calculating the energy consumption rate. ARI Standard 810–2003 references the ASHRAE Standard 29–1988 (RA 2005), "Method of Testing Automatic Ice Makers," as the method of test. 71 FR 71340, 71350. The proposed rule incorporates testing methods contained in the revisions to these commercial standards, AHRI Standard 810–2007, "Performance Rating of Automatic Commercial Ice-Makers," section 3, "Definitions," section 4, "Test Requirements," and section 5, "Rating Requirements" and ASHRAE Standard 29–2009, "Method of Testing Automatic Ice Makers." DOE has evaluated these standards and is unable to conclude whether they fully comply with the requirements of section 323(b) of the Federal Energy Administration Act (*i.e.,* whether they were developed in a manner that fully provides for public participation, comment, and review).

As required by section 32(c) of the Federal Energy Administration Act of 1974, as amended, DOE will consult with the Attorney General and the Chairman of the Federal Trade Commission before prescribing a final rule about the impact on competition of using the methods contained in these standards.

V. Public Participation

A. Attendance at Public Meeting

The time, date, and location of the public meeting are listed in the **DATES** and **ADDRESSES** sections at the beginning of this document. If you plan to attend the public meeting, please notify Ms. Brenda Edwards at (202) 586–2945 or *Brenda.Edwards@ee.doe.gov.*

As explained in the **ADDRESSES** section, foreign nationals visiting DOE Headquarters are subject to advance security screening procedures.

In addition, you can attend the public meeting via webinar. Webinar registration information, participant instructions, and information about the capabilities available to webinar participants will be published on DOE's Web site *http://www.eere.energy.gov/buildings/appliance_standards/commercial/automatic_ice_making_equipment.html.* Participants are responsible for ensuring their systems are compatible with the webinar software.

B. Procedure for Submitting Prepared General Statements for Distribution

Any person who plans to present a prepared general statement may request that copies of his or her statement be made available at the public meeting. Such persons may submit requests, along with an advance electronic copy of their statement in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format, to the appropriate address shown in the **ADDRESSES** section at the beginning of this notice. The request and advance copy of statements must be received at least one week before the public meeting and may be e-mailed, hand-delivered, or sent by mail. DOE prefers to receive requests and advance copies via e-mail. Please include a telephone number to enable DOE staff to make a follow-up contact, if needed.

C. Conduct of Public Meeting

DOE will designate a DOE official to preside at the public meeting and may also employ a professional facilitator to aid discussion. The meeting will not be a judicial or evidentiary-type public hearing, but DOE will conduct it in accordance with section 336 of EPCA (42 U.S.C. 6306) A court reporter will record the proceedings and prepare a transcript. DOE reserves the right to schedule the order of presentations and to establish the procedures governing the conduct of the public meeting. After the public meeting, interested parties may submit further comments on the proceedings as well as on any aspect of the rulemaking until the end of the comment period.

The public meeting will be conducted in an informal conference style. DOE will present summaries of comments received before the public meeting, allow time for prepared general statements by participants, and encourage all interested parties to share their views on issues affecting this rulemaking. Each participant will be allowed to make a general statement (within DOE-determined time limits) prior to the discussion of specific topics. DOE will permit, as time allows, other participants to comment briefly on any general statements.

At the end of all prepared statements on a topic, DOE will permit participants to clarify their statements briefly and comment on statements made by others. Participants should be prepared to

answer questions from DOE and other participants concerning these issues. DOE representatives may also ask questions of participants concerning other matters relevant to this rulemaking. The official conducting the public meeting will accept additional comments or questions from those attending, as time permits. The presiding official will announce any further procedural rules or modification of the above procedures that may be needed for the proper conduct of the public meeting.

A transcript of the public meeting will be included in the docket, which can be viewed as described in the *Docket* section at the beginning of this notice. In addition, any person may buy a copy of the transcript from the transcribing reporter.

D. Submission of Comments

DOE will accept comments, data, and other information regarding the proposed rule before or after the public meeting, but no later than the date provided in the **DATES** section at the beginning of this proposed rule. Interested parties may submit comments using any of the methods described in the **ADDRESSES** section at the beginning of this notice.

Submitting comments via regulations.gov. The regulations.gov webpage will require you to provide your name and contact information. Your contact information will be viewable to DOE Building Technologies staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any document attached to your comment. Persons viewing comments will see only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

Do not submit to regulations.gov information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (CBI). Comments submitted through regulations.gov cannot be claimed as CBI. Comments received through the Web site will waive any CBI claims for the information submitted. For information on submitting CBI, see the *Confidential Business Information* section.

DOE processes submissions made through regulations.gov before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable for up to several weeks. Please keep the comment tracking number that regulations.gov provides after you have successfully uploaded your comment.

Submitting comments via e-mail, hand delivery, or mail. Comments and documents submitted via e-mail, hand delivery, or mail also will be posted to regulations.gov. If you do not want your personal contact information to be publicly viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information on a cover letter. Include your first and last names, e-mail address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments.

Include contact information each time you submit comments, data, documents, and other information to DOE. E-mail submissions are preferred. If you submit via mail or hand delivery, please provide all items on a CD, if feasible. It is not necessary to submit printed copies. No facsimiles (faxes) will be accepted.

Comments, data, and other information submitted to DOE electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format.

Provide documents that are not secured, are written in English, and are free of any defects or viruses. Documents should not contain special characters or any form of encryption and, if possible, they should carry the electronic signature of the author.

Campaign form letters. Please submit campaign form letters by the originating organization in batches of between 50 and 500 form letters per PDF or as one form letter with a list of supporters' names compiled into one or more PDFs. This reduces comment processing and posting time.

Confidential Business Information. According to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via e-mail, postal mail, or hand delivery two well-marked copies: one copy of the document marked confidential including all the information believed to be confidential, and one copy of the document marked non-confidential with the information believed to be confidential deleted. Submit these documents via e-mail or on a CD, if feasible. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

Factors of interest to DOE when evaluating requests to treat submitted information as confidential include: (1) A description of the items; (2) whether and why such items are customarily treated as confidential within the industry; (3) whether the information is generally known by or available from other sources; (4) whether the information has previously been made available to others without obligation concerning its confidentiality; (5) an explanation of the competitive injury to the submitting person which would result from public disclosure; (6) when such information might lose its confidential character due to the passage of time; and (7) why disclosure of the information would be contrary to the public interest.

It is DOE's policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

E. Issues on Which DOE Seeks Comment

Although comments are welcome on all aspects of this rulemaking, DOE is particularly interested in receiving comments on following issues.

Issues presented in the preamble to the proposed rule:

1. DOE requests comment on its determination that the proposed test procedure amendments will not affect the measured energy or water consumption of automatic commercial ice makers that are currently covered under energy conservation standards. DOE also requests comment on the proposal that the use of amended test procedure be required upon the effective date of any test procedure final rule, 30 days after publication.

2. DOE requests comment on updating the referenced industry test procedures to the most current version.

3. DOE requests comment on expanding the capacity range from 50 to 2,500 pounds of ice per 24 hours to 50

to 4,000 pounds of ice per 24 hours. DOE requests comment on providing test methods for continuous type ice makers.

4. DOE requests comment on the proposed method to normalize energy and condenser water consumption to 32 °F water with no water content for continuous type ice makers.

5. DOE requests comments or data related to the impact of storage bin effectiveness on the energy and water consumption of automatic commercial ice makers. Specifically, DOE requests comment on the appropriate test method and metric for storage bin effectiveness and the burden associated with adopting such a test method.

6. DOE requests comment on the proposal to require testing of all remote condensing ice makers with a dedicated remote condensing unit and reporting of ice-making mechanism, compressor, and condenser energy use.

7. DOE requests comment on the proposal to allow for optional test procedure for modulating capacity automatic commercial ice makers. Specifically, DOE requests comment on the weighting of the energy consumption at the minimum and maximum capacity settings.

8. DOE requests comment on its proposal to incorporate AHRI Standard 810–2007 without specification or clarification as to the calculation for energy.

9. DOE requests comment on its determination that an additional test procedure to quantify auxiliary energy use during non-ice making periods is not justified given the relative magnitude of energy consumption.

10. DOE requests comment on its decision not to measure potable water used in making ice.

11. DOE requests additional data that would support evaluation of the need for a standardized water hardness test.

12. DOE requests comment on testing units at the highest water consumption purge setting. Specifically, DOE requests comment on the difference in energy and water consumption when tested at the maximum purge setting versus the purge setting as specified by the manufacturer.

13. DOE seeks comment on its estimated additional cost of testing due to the new requirements for testing presented in this NOPR. Specifically, DOE seeks comment on the impacts of the additional cost of testing on small manufacturers.

14. DOE seeks comment on its reasoning that the proposed test procedure changes will not have a significant impact on a substantial number of small entities.

VI. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of today's proposed rule.

List of Subjects in 10 CFR Part 431

Administrative practice and procedure, Confidential business information, Energy conservation test procedures, Incorporation by reference, Reporting and recordkeeping requirements, and Small business.

Issued in Washington, DC, on March 24, 2011.

Kathleen Hogan,

Deputy Assistant Secretary for Energy Efficiency, Office of Technology Development, Energy Efficiency and Renewable Energy.

For the reasons set forth in the preamble, DOE proposes to amend part 431 of title 10, Code of Federal Regulations to read as follows:

PART 431—ENERGY EFFICIENCY PROGRAM FOR CERTAIN COMMERCIAL AND INDUSTRIAL EQUIPMENT

1. The authority citation for part 431 continues to read as follows:

Authority: 42 U.S.C. 6291–6317.

2. Section 431.132 is amended by adding in alphabetical order the definitions of "batch type ice maker" and "continuous type ice maker;" and revising the definition of "energy use" to read as follows:

§ 431.132 Definitions concerning automatic commercial ice makers.

* * * * *

Batch type ice maker means an ice maker having alternate freezing and harvesting periods. This includes automatic commercial ice makers that produce cube type ice, tube type automatic commercial ice makers, and other batch technologies. Also referred to as cube type ice maker in AHRI Standard 810–2007 (incorporated by reference, see § 431.133), AHRI Standard 810–2007's definition clarifies that "cube" does not reference a specific size or shape and includes all automatic commercial ice makers with alternate freezing and harvesting periods.

Continuous type ice maker means an ice maker that continuously freezes and harvests ice at the same time.

* * * * *

Energy use means the total energy consumed, stated in kilowatt hours per one-hundred pounds (kWh/100 lb) of ice stated in multiples of 0.1. For remote condensing (but not remote compressor) automatic commercial ice makers and remote condensing and remote compressor automatic commercial ice makers, total energy consumed shall include the energy use of the ice-making mechanism, the compressor, and the remote condenser or condensing unit.

* * * * *

3. Section 431.133 is revised to read as follows:

§ 431.133 Materials incorporated by reference.

(a) *General.* We incorporate by reference the following standards into Subpart H of Part 431. The material listed has been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Any subsequent amendment to a standard by the standard-setting organization will not affect the DOE regulations unless and until amended by DOE. Material is incorporated as it exists on the date of the approval and a notice of any change in the material will be published in the Federal Register. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030 or go to *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.* Also, this material is available for inspection at U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Program, 6th Floor, 950 L'Enfant Plaza, SW., Washington, DC 20024, 202–586–2945, or go to: *http://www1.eere.energy.gov/buildings/appliance_standards/.* Standards can be obtained from the sources listed below.

(b) *AHRI.* The Gas Appliance Manufacturers Association (GAMA) merged in 2008 with the Air-Conditioning and Refrigeration Institute to become the Air-Conditioning, Heating, and Refrigeration Institute (AHRI). Anyone can obtain a copy of AHRI Standard 810–2007 from the Air-Conditioning, Heating, and Refrigeration Institute, 2111 Wilson Blvd, Suite 500, Arlington, VA 22201, (703) 524–8800, *ahri@ahrinet.org,* or *http://www.ahrinet.org/Content/StandardsProgram_20.aspx.*

(1) Air-Conditioning, Heating, and Refrigeration Institute Standard 810–2007, "Performance Rating of Automatic Commercial Ice Makers," ("AHRI Standard 810–2007"), IBR approved for § 431.134.

(2) [Reserved].

(c) *ASHRAE.* American Society of Heating, Refrigerating and Air-

Conditioning Engineers, Inc., 1791 Tullie Circle, NE., Atlanta, GA 30329, (404) 636–8400, *ashrae@ashrae.org,* or *http://www.ashrae.org.*

(1) American National Standards Institute/American Society of Heating, Refrigeration, and Air-Conditioning Engineers Standard 29–2009, ("ASHRAE Standard 29–2009"), "Method of Testing Automatic Ice Makers," IBR approved for § 431.134.

(2) [Reserved].

4. Section 431.134 is revised to read as follows:

§ 431.134 Uniform test methods for the measurement of energy and water consumption of automatic commercial ice makers.

(a) *Scope.* This section provides the test procedures for measuring, pursuant to EPCA, the energy use in kilowatt hours per 100 pounds of ice (kWh/100 lb ice) and the condenser water use in gallons per 100 pounds of ice (gal/100 lb ice) of automatic commercial ice makers with capacities between 50 and 4,000 pounds of ice per 24 hours.

(b) *Testing and Calculations.* Measure the energy use and the condenser water use of each covered product by conducting the test procedures set forth in AHRI Standard 810–2007, section 3, "Definitions," section 4, "Test Requirements," and section 5, "Rating Requirements" (incorporated by reference, see § 431.133). Where AHRI Standard 810–2007 references "ASHRAE Standard 29," ASHRAE Standard 29–2009 shall be used (incorporated by reference, see § 431.133).

(1) For batch type automatic commercial ice-making heads, remote condensing (but not remote compressor) automatic commercial ice makers, and remote condensing and remote compressor automatic commercial ice makers; the energy use and condenser water use will be reported as measured in this paragraph (b), including the energy and water consumption, as applicable, of the ice-making mechanism, the compressor, and the condenser or condensing unit.

(2)(i) For continuous type automatic commercial ice makers, determine the energy use and condenser water use by multiplying the energy consumption or condenser water use as measured in this paragraph (b) by the ice quality adjustment factor, determined using the following equation:

$$\text{Ice Quality Adjustment Factor} = \left[\frac{144\,{}^{\text{Btu}}/_{\text{lb}} + 38\,{}^{\text{Btu}}/_{\text{lb}}}{\left(\frac{144\,{}^{\text{Btu}}/_{\text{lb}}}{\text{calorimeter constant}}\right) + 38\,{}^{\text{Btu}}/_{\text{lb}}}\right]$$

(ii) Determine the calorimeter constant as specified in the "Procedure for Determining Ice Quality" in section A.3 of normative annex A of ASHRAE Standard 29–2009 (incorporated by reference, see § 431.133).

(3) For batch and continuous type automatic ice makers with multiple capacity settings, determine the energy use and condenser water use by performing the test procedures in this section at the highest capacity setting. The energy consumption and condenser water use may optionally be determined by testing the multiple capacity automatic commercial ice makers at both the highest and the lowest capacity settings and averaging the two results.

[FR Doc. 2011–7728 Filed 4–1–11; 8:45 am]

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FEDERAL RESERVE SYSTEM

12 CFR Part 234

[Regulation HH; Docket No. R–1412]

RIN 7100–AD71

Financial Market Utilities

AGENCY: Board of Governors of the Federal Reserve System.

ACTION: Notice of proposed rulemaking.

SUMMARY: Under section 805(a)(1)(A) of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), the Board of Governors of the Federal Reserve System (the "Board") is required to promulgate risk-management standards governing the operations related to the payment, clearing, and settlement activities of certain financial market utilities ("FMUs") that are designated as systemically important by the Financial Stability Oversight Council (the "Council"). In addition, under section 806(e) of the Dodd-Frank Act, the Board is required to prescribe regulations setting forth the standards for determining when advance notice is required to be provided by a designated FMU for which the Board is the Supervisory Agency when the designated FMU proposes to change its rules, procedures, or operations that could materially affect the nature or level of risks presented by the designated FMU. The Board is proposing new Part 234 to Title 12 of the Code of Federal Regulations to implement these provisions of the Dodd-Frank Act.

DATES: Comments on this notice of proposed rulemaking must be received by May 19, 2011.

ADDRESSES: You may submit comments, identified by Docket No. R–1412 and RIN No. AD–7100–AD71, by any of the following methods:

- *Agency Web site: http://www.federalreserve.gov/generalinfo/foia/ProposedRegs.cfm.*
- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *E-mail: regs.comments@federalreserve.gov.* Include the docket number in the subject line of the message.
- *Facsimile:* (202) 452–3819 or (202) 452–3102.
- *Mail:* Jennifer J. Johnson, Secretary, Board of Governors of the Federal Reserve System, 20th Street and Constitution Avenue, NW., Washington, DC 20551.

All public comments are available from the Board's Web site at *http://www.federalreserve.gov/generalinfo/foia/ProposedRegs.cfm* as submitted, unless modified for technical reasons. Accordingly, your comments will not be edited to remove any identifying or contact information. Public comments may also be viewed electronically or in paper form in Room MP–500 of the Board's Martin Building (20th and C Streets, NW.) between 9 a.m. and 5 p.m. on weekdays.

FOR FURTHER INFORMATION CONTACT: Jennifer A. Lucier, Manager (202) 872–7581, Division of Reserve Bank Operations and Payment Systems; Christopher W. Clubb, Senior Counsel (202) 452–3904, or Kara L. Handzlik, Senior Attorney (202) 452–3852, Legal Division; for users of Telecommunications Device for the Deaf (TDD) only, contact (202) 263–4869.

SUPPLEMENTARY INFORMATION: