

$$\text{Ballast Luminous Efficiency} = \frac{\text{Total Test Ballast Lamp Arc Power}}{\text{Ballast Input Power}} * \beta$$

Where:

Total Lamp Arc Power is the sum of the lamp arc powers for all lamps operated by the

ballast as determined by section 6.2.5, ballast input power is as determined by section 6.2.6, and  $\beta$  is equal to 1.0 for

high-frequency ballasts and 0.9 for low-frequency ballasts.

7.3. Calculate Power Factor (PF).

$$\text{Power Factor} = \frac{\text{Ballast Input Power}}{\text{Input Voltage} \times \text{Input Current}}$$

Where:

Ballast input power is determined in accordance with section 6.2.6, input voltage is determined in accordance with section 6.2.7, and input current is determined in accordance with section 6.2.8.

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## DEPARTMENT OF ENERGY

### 10 CFR Part 431

[Docket No. EERE-2010-BT-TP-0034]

RIN 1904-AC40

#### Energy Efficiency Program for Certain Commercial and Industrial Equipment: Test Procedures for Commercial Refrigeration Equipment

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

**ACTION:** Notice of proposed rulemaking and public meeting.

**SUMMARY:** The U.S. Department of Energy (DOE) proposes amendments to its test procedure for commercial refrigeration equipment (CRE). The amendments would update the referenced industry test procedures to the most current version, incorporate methods to evaluate the energy impacts resulting from the use of night curtains and lighting occupancy sensors, and allow testing of certain commercial refrigerators at their lowest application product temperature. These test procedures will apply to commercial refrigerators, freezers, and refrigerator-freezers, as defined in the Energy Policy and Conservation Act of 1975 (EPCA), as amended. Use of any amended test procedures will be required on the compliance date of any standards developed in the associated energy conservation standard rulemaking. DOE will hold a public meeting to receive and discuss comments on the proposal.

**DATES:** DOE will hold a public meeting in Washington, DC on Thursday, January 6, 2011, from 9 a.m. to 4 p.m.

Additionally, DOE plans to conduct the public meeting via webinar. DOE will accept comments, data, and other information regarding this notice of proposed rulemaking (NOPR) before or after the public meeting, but no later than January 24, 2011. See section V, "Public Participation," of this NOPR for details.

You can attend the public meeting via webinar, and registration information, participant instructions, and information about the capabilities available to webinar participants will be published on the following Web site: <https://www1.gotomeeting.com/join/638471849>. Participants are responsible for ensuring their systems are compatible with the webinar software.

The purpose of the meeting is to receive comments and to help DOE understand potential issues associated with this proposed rulemaking. DOE must receive requests to speak at the meeting before 4 p.m., Thursday, December 22, 2010. DOE must receive a signed original and an electronic copy of statements to be given at the public meeting before 4 p.m., Thursday, December 29, 2010.

**ADDRESSES:** The public meeting will be held at the U.S. Department of Energy, Forrestal Building, Room 1E-245, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Please note that foreign nationals planning to participate in the public meeting are subject to advance security screening procedures which require advance notice of 30 days prior to attendance of the public meeting. If a foreign national wishes to participate in the public meeting, please inform DOE of this fact as soon as possible by contacting Ms. Brenda Edwards at (202) 586-2945 so that the necessary procedures can be completed.

Interested parties may submit comments, identified by docket number EERE-2010-BT-TP-0034 or Regulation Identifier Number (RIN) 1904-AC40, by any of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.

- *E-mail:* CRE-2010-TP-

0034@ee.doe.gov. Include the docket number EERE-2010-BT-TP-0034 and/or RIN 1904-AC40 in the subject line of the message.

- *Postal Mail:* Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, Mailstop EE-2J, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Please submit one signed paper original.

- *Hand Delivery/Courier:* Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, 6th Floor, 950 L'Enfant Plaza, SW., Washington, DC 20024. Telephone: (202) 586-2945. Please submit one signed paper original.

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.*

*Instructions:* All submissions must include the docket number or RIN for this rulemaking. For detailed instructions on submitting comments and additional information on the rulemaking process, see section V, "Public Participation," of this document.

*Docket:* For access to the docket to read background documents or comments received, visit the U.S. Department of Energy, 6th Floor, 950 L'Enfant Plaza, SW., Washington, DC 20024, (202) 586-2945, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays. Please call Ms. Brenda Edwards at (202) 586-2945 for additional information regarding visiting the Resource Room.

**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 Council contact Mr.

Michael Kido, U.S. Department of Energy, Office of General Counsel, GC-71, 1000 Independence Avenue, SW., Washington, DC 20585-0121, (202) 586-8145, Michael.Kido@hq.doe.gov; or Ms. Elizabeth Kohl, U.S. Department of Energy, Office of General Counsel, GC-71, 1000 Independence Avenue, SW., Washington, DC 20585-0121, (202) 586-7796, Elizabeth.Kohl@hq.doe.gov.

For information on how to submit or review public comments and on how to participate in the public meeting, contact Ms. Brenda Edwards, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Program, EE-2], 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone (202) 586-2945. E-mail: Brenda.Edwards@ee.doe.gov.

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#### I. Authority and Background

##### A. Authority

Title III of EPCA (42 U.S.C. 6291 *et seq.*) as amended by the Energy Policy Act of 2005 (EPACT 2005) establishes an energy conservation program for certain commercial and industrial equipment (42 U.S.C. 6311-6317). EPCA prescribes energy conservation standards for certain self-contained commercial refrigerators, freezers, and refrigerator-freezers with solid or transparent doors and designed for a pull-down or holding temperature application. (42 U.S.C. 6313(c)(2)-(3)) EPCA also requires DOE to develop standards for ice-cream freezers; self-contained commercial refrigerators, freezers, and refrigerator-freezers without doors; and remote condensing commercial refrigerators, freezers, and refrigerator-freezers. (42 U.S.C. 6313(c)(4)(A)) DOE published a final rule establishing standards for these equipment classes on January 9, 2009. 74 FR 1091.

Manufacturers of covered equipment, including commercial refrigeration equipment, must use prescribed test procedures to measure energy efficiency or use and certify to DOE that equipment complies with energy conservation standards. (42 U.S.C. 6311(3) and (4)) The current test procedures for commercial refrigeration equipment appear under Title 10 of the Code of Federal Regulations (CFR) part 431, subpart C.

EPCA requires DOE to conduct an evaluation of each class of covered equipment at least once every 7 years to determine whether to, among other things, amend the test procedures for such equipment. Any amended test procedures must be reasonably designed to produce test results that reflect energy efficiency, energy use, and estimated operating costs during a representative average use cycle and must not be unduly burdensome to conduct. (42 U.S.C. 6314(a)(2))

In addition, EPCA contains specific provisions relating to test procedures for commercial refrigeration equipment. Test procedures for commercial refrigerators, freezers, and refrigerator-freezers must be: (1) The test procedures determined to be generally accepted industry testing procedures; or (2) rating procedures developed or recognized by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) or by the American National Standards Institute

(ANSI). (42 U.S.C. 6314(a)(6)(A)(i))

EPCA also establishes initial test procedures for self-contained refrigerators, freezers, and refrigerator-freezers with doors. These test procedures are the ASHRAE 117 test procedures that went into effect on January 1, 2005. (42 U.S.C. 6314(a)(6)(A)(ii))

If ASHRAE 117 is amended, however, the Secretary must, by rule, amend the DOE test procedure to ensure consistency with the amended ASHRAE 117 unless certain findings are made by clear and convincing evidence. In addition, if a test procedure other than ASHRAE 117 is approved by ANSI, the Secretary must review the relative strengths and weaknesses of the new test procedure relative to the ASHRAE 117 test procedure and, based on that review, adopt one new test procedure for use in the standards program. (42 U.S.C. 6314(a)(6)(E)-(F))

In 2006 DOE published a final rule that adopted ANSI/Air-Conditioning and Refrigeration Institute (ARI) Standard 1200-2006 (hereafter referenced as ARI Standard 1200-2006) as the referenced test procedure for measuring energy consumption and ANSI/Association of Home Appliance Manufacturers (AHAM) Standard HRF-1-2004 (hereafter referred to as AHAM HRF-1-2004) for measuring refrigerated compartment volume. 71 FR 71370. These industry standards for commercial refrigeration equipment have since been updated from the procedures currently referenced in the regulations. As stated previously, EPCA authorizes DOE to review the merits of the updated industry test procedures. If DOE determines that a test procedure amendment is warranted, DOE must publish proposed test procedures and offer the public an opportunity to present oral and written comments on the amendment. (42 U.S.C. 6314(b))

##### B. Background

ASHRAE Standard 117-2002, "Method of Testing Closed Refrigerators," was the test procedure for commercial refrigeration equipment for which standards were specified in EPACT 2005. EPACT 2005 mandated use of the ASHRAE 117 standard in effect on January 1, 2005. (42 U.S.C. 6314(a)(6)(A)(ii)) Subsequently, ASHRAE amended this test procedure and adopted ASHRAE Standard 72-2005, "Method of Testing Commercial Refrigerators and Freezers," which was approved by ANSI on July 29, 2005. DOE reviewed ASHRAE Standard 72-2005, as well as ARI Standard 1200-2006, which was approved by ANSI on August 28, 2006. (42 U.S.C.

6314(a)(6)(E)–(F)) DOE determined that ARI Standard 1200–2006 includes the test procedures in ASHRAE Standard 72–2005 as well as the rating temperatures prescribed in EPACT 2005. As a result, DOE published a final rule on December 8, 2006 in which it adopted ARI Standard 1200–2006, “Performance Rating of Commercial Refrigerated Display Merchandisers and Storage Cabinets,” as the DOE test procedure for commercial refrigeration equipment. 71 FR 71370; 10 CFR 431.63–431.64. ARI Standard 1200–2006 contains rating temperature specifications of 38 degrees Fahrenheit (°F) ( $\pm 2$  °F) for commercial refrigerators and refrigerator compartments, 0 °F ( $\pm 2$  °F) for commercial freezers and freezer compartments, and  $-5$  °F ( $\pm 2$  °F) for commercial ice-cream freezers. In the test procedure final rule, DOE adopted a  $-15$  °F ( $\pm 2$  °F) rating temperature for commercial ice-cream freezers, rather than the  $-5$  °F ( $\pm 2$  °F) prescribed in the ARI Standard 1200–2006. During the 2006 test procedure rulemaking, DOE determined that testing at a  $-15$  °F ( $\pm 2$  °F) rating temperature was more representative of the actual energy consumption of commercial freezers specifically designed for ice cream application. 71 FR 71357. In addition, DOE adopted AHAM Standard HRF–1–2004, “Energy, Performance and Capacity of Household Refrigerators, Refrigerator-Freezers and Freezers,” for measuring compartment volumes for equipment covered under this rule. 71 FR 71370 (Dec. 8, 2006).

Since the publication of the final rule, ARI has merged with the Gas Appliance Manufacturers Association (GAMA) to form the Air-Conditioning, Heating and Refrigeration Institute (AHRI) and updated its test procedure, the most recent version of which is AHRI Standard 1200–2010. AHRI Standard 1200–2010 includes changes to the equipment class nomenclature used in the test procedure, the method of normalizing equipment energy consumption, the ice-cream freezer test temperature, and other minor differences. These changes aligned the AHRI test procedure with the nomenclature and methodology used in DOE’s 2009 standards rulemaking on commercial refrigeration equipment. DOE proposes to reference AHRI 1200–2010, the test procedure currently used in industry.

Similarly, AHAM has updated Standard HRF–1–2004 to the most recent version, AHAM HRF–1–2008. The changes to this standard are mostly editorial and involved reorganizing some of the sections for simplicity and usability. As part of the reorganization,

the HRF–1–2004 section numbers that are referenced within the DOE test procedure were updated to the structure in HRF–1–2008. However, the content of those sections was not substantially changed. The newly updated AHRI Standard 1200–2010 references the most recent version of the AHAM standard, AHAM HRF–1–2008. As such, DOE proposes to update the referenced test procedure to adopt AHAM HRF–1–2008 as the prescribed method for determining refrigerated compartment volume.

DOE also proposes changes to the test procedure to better address certain energy efficiency features for which the current test procedure cannot account. During the 2009 energy conservation standards rulemaking, DOE screened out several energy efficiency technologies because their effects were not captured by the current test procedure. 72 FR 41162, 41179–80 (July 26, 2007). DOE proposes modifications to its test procedure to better address some of these technologies. Specific changes include provisions for measuring the impact of night curtains and lighting occupancy sensors and controls.

On May 18, 2010, DOE held a public meeting (the May 2010 Framework public meeting) to discuss the rulemaking framework for the concurrent commercial refrigeration equipment (CRE) energy conservation standard (docket number EERE–2010–BT–STD–0003). During this May 2010 Framework public meeting, DOE received comments from several interested parties that additional rating temperatures should be considered in the test procedure. Some equipment is designed for storing goods such as wine, candy, and flowers at temperatures that are held constant, but are higher than the temperatures typically used in commercial refrigerators. The commenters stated that some covered refrigeration equipment designed for operation at higher temperatures is not able to be tested at the prescribed 38 °F, and they suggested that DOE consider this in the test procedures and standards rulemakings. Consequently, DOE proposes provisions for testing commercial refrigeration equipment that is designed to operate at temperatures higher than 38 °F at the lowest possible application product temperature.

#### *C. Standby Mode and Off Mode*

The Energy Independence and Security Act of 2007 (EISA 2007; Pub. L. 110–140) amended EPCA to require DOE, for each covered product for which current test procedures do not account for standby and off mode

energy consumption, to modify the test procedures to integrate such energy consumption into the energy descriptor(s) for that product, if technically feasible. Otherwise, DOE must prescribe a separate standby and off mode energy use test procedure, if technically feasible. (42 U.S.C. 6295(gg)(2)(A)) EISA 2007 also requires any final rule to establish or revise a standard for a covered product, adopted after July 1, 2010, to incorporate standby mode and off mode energy use into a single amended or new standard, if feasible. (42 U.S.C. 6295(gg)(3)(A)) DOE currently believes that the “off mode” and “standby mode” conditions of operation do not apply to the equipment covered by this rulemaking because the provision within EISA which stipulates that off mode and standby mode energy usage must be quantified only appears in relation to consumer products and is not required for commercial equipment. Additionally, commercial refrigeration equipment, whether in retail, foodservice, or other applications, operates 24 hours a day, 7 days a week to maintain product at the necessary temperature for safe storage or retailing. Therefore, standby and off modes will not be considered for commercial refrigeration equipment.

## **II. Summary of the Proposed Rule**

DOE is considering modifications to its test procedure to incorporate the current industry-accepted test procedures, address certain energy efficiency features that currently are not accounted for in the test procedure (light occupancy sensors and night curtains), and allow testing of commercial refrigeration equipment that cannot be tested at one of the three currently specified product test temperatures.

EPCA 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); 6314(a)(6)) 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); 6314(a)(6)) DOE recognizes that the proposed test procedure amendments would affect the measured energy use of commercial refrigeration equipment. DOE is considering amending the standards currently in effect for commercial refrigeration equipment in a concurrent rulemaking. DOE will

consider these proposed test procedure amendments as any final energy conservation standards are developed.

DOE also proposes to require use of any amended test procedures to be consistent with the compliance date of any revised energy conservation standards. DOE would add language to any final test procedure amendments to the effect that the amendments need not be performed at that time to determine compliance with the current energy conservation standards. Instead, manufacturers would be required to use the amended test procedures to demonstrate compliance with DOE's energy conservation standards on the compliance date of any final rule establishing amended energy conservation standards for commercial refrigeration equipment.

Further clarification would also be provided that, as of 360 days after publication of any test procedure final rule, representations as to the energy consumption of any covered products would need to be based on results generated using the amended test procedure. (42 U.S.C. 6314(d))

### III. Discussion

As part of the current rulemaking on the energy conservation standard for commercial refrigeration equipment, DOE held a public meeting on May 18, 2010 to present its framework document ([http://www1.eere.energy.gov/buildings/appliance\\_standards/commercial/pdfs/cre\\_framework\\_04-30-10.pdf](http://www1.eere.energy.gov/buildings/appliance_standards/commercial/pdfs/cre_framework_04-30-10.pdf)) and to receive comments from interested parties. DOE considered the comments received as a result of the framework document public meeting and incorporated recommendations, where appropriate, that applied to the test procedure.

In Section 0, DOE provides responses to comments in the following subject areas:

1. Coordination With Other Programs;
2. Coordination with AHRI;
3. Burden of Testing;
4. Transient Testing;
5. Rating Temperatures; and
6. Energy Efficiency Features.

Section III.B provides a summary of the proposed revisions to the test procedure at 10 CFR part 431, subpart C, "Uniform test method for measuring the energy consumption of commercial refrigerators, freezers, and refrigerator-freezers." These proposed revisions include:

1. Update References to Industry Test Procedures to Most Current Version;
2. Include Method for Determining Energy Savings Due to the Use of Night Curtains on Open Cases;

3. Include Calculation for Determining Energy Savings Due to Use of Lighting Occupancy Sensors or Controls;

4. Include Provision for Testing at Lowest Application Product Temperature.

Comments relevant to these subject areas are also addressed in section III.B.

#### A. Framework Comment Summary and DOE Responses

##### 1. Coordination With Other Programs

During the Framework public meeting, DOE received several comments regarding the potential overlap between testing performed for the purposes of compliance with DOE standards and testing performed for certification for voluntary energy efficiency programs. Continental stated that testing requirements should be unified between ENERGY STAR® and DOE standards. (Continental, No. 1.2.006 at p. 190<sup>1</sup>) Continental also stated that a common database of certified equipment should be shared between DOE and the U.S. Environmental Protection Agency ENERGY STAR program. (Continental, No. 1.2.006 at pp. 190 – 191)

The use of common test procedures, reporting, and test data repository pertains to many commercial and residential products, including commercial refrigeration equipment. ENERGY STAR currently requires testing according to ASHRAE Standard 72–2005. ASHRAE Standard 72–2005 is referenced as the method of test in ARI Standard 1200–2006, DOE's current referenced test procedure, as well as AHRI Standard 1200–2010, which DOE proposes to incorporate by reference in today's test procedure. As a result, DOE believes that testing according to ARI standard 1200–2006 or 1200–2010 would be sufficient for purposes of ENERGY STAR certification.

DOE acknowledges that manufacturers may have to submit separate reports for showing compliance with ENERGY STAR and DOE energy conservation standards. Reporting requirements for the purposes of certification and compliance with DOE

<sup>1</sup> In the following discussion, comments will be presented along with a notation in the form "Continental, No. 1.2.006 at p. 190," 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. Section 1.1.XXX refers to **Federal Register** documents, section 1.2.XXX refers public meeting support documents, and 1.3.XXX refers to comments submitted by interested parties. This particular notation refers to a comment (1) By Continental, (2) in document number 6 in the public meeting support materials, and (3) appearing on page 190.

energy conservation standards are currently being addressed under a separate rulemaking (docket number EERE–2010–BT–STD–0003). DOE believes that further analysis or effort to coordinate a common database or other aspects with the ENERGY STAR program pertain to many covered products, both commercial and residential, and should be addressed in the context of that rulemaking rather than this test procedure rulemaking.

##### 2. Coordination with the Air-Conditioning, Heating and Refrigeration Institute

Many interested parties provided DOE with comments regarding coordination between DOE and AHRI in the development of test procedures. AHRI reminded stakeholders that AHRI Standard 1200, which is referenced in the DOE test procedure, is under constant review, and invited interested parties, including DOE, to participate in this review. (AHRI, No. 1.2.006 at p. 71, No. 1.3.008 at p. 3) AHRI also expressed support for DOE's plan to adopt the 2008 version of AHRI Standard 1200. (AHRI, No. 1.3.008 at p. 3) Similarly, DOE was encouraged to participate in the ASHRAE and AHRI standards revision processes to ensure continuity between Federal and industry standards. (True, No. 1.2.006 at p. 72) California Codes and Standards likewise agreed that DOE should coordinate with AHRI to update AHRI Standard 1200. (California Codes and Standards, No. 1.3.005 at pp. 2–3) A joint comment submitted by the Northwest Energy Efficiency Alliance and the Northwest Power and Conservation Council (Northwest Joint Comment) agreed with the use of AHRI Standard 1200 as the basis for testing, but urged DOE to begin updating its own test procedure in parallel with its efforts to clarify equipment classes. (Adjuvant Consulting, No. 1.3.003 at p. 3) Further, the Northwest Joint Comment stated that AHRI Standard 1200 will need updating for this rulemaking because it excludes some equipment classes, may not have universally applicable test conditions, and is unable to quantify the effects of some technology options. The Northwest Joint Comment also stated that AHRI Standard 1200 should be modified to capture the impacts of all technologies considered by DOE in the rulemaking and appropriate operating regimes. (Adjuvant Consulting, No. 1.3.003 at pp. 2–3)

During the development of these proposed test procedures amendments, DOE closely followed the activities of engineering committees that oversee AHRI Standard 1200 and ASHRAE

Standard 72 and will continue to stay abreast of AHRI and ASHRAE efforts to revise and update their respective test procedures and standards. In the interest of coordinating with AHRI, DOE proposes to update the references in the DOE test procedure to the most recent version of AHRI Standard 1200, AHRI Standard 1200–2010. DOE also proposes to amend aspects of this testing protocol as part of the DOE procedure to capture the performance of certain energy efficiency features, as described in section III.B. Regarding equipment classes that may be excluded from AHRI Standard 1200, DOE believes that all equipment classes for which DOE intends to set standards are able to be tested using AHRI Standard 1200–2010. Also, DOE believes the test conditions currently prescribed in AHRI Standard 1200–2010 are applicable to all commercial refrigeration equipment covered under this rulemaking with the exception of equipment that cannot be tested at the 38 °F integrated average product temperature, see further discussion in sections III.A.5 and III.B.4.

### 3. Burden of Testing

During the Framework public meeting, and in written comments, several interested parties expressed concern regarding the burden of testing. Master-Bilt stated that transitioning to a system of third-party testing would more than double its testing costs. (Master-Bilt, No. 1.2.006 at p. 200) Zero Zone commented that changes to the test procedure would make existing test data invalid, would possibly require multiple tests at different configurations, and would increase costs. (Zero Zone, No. 1.3.007 at p. 1) True expressed a concern that there is a learning curve associated with how to test equipment at standard conditions (True, No. 1.2.006 at pp. 133–134) and that introducing additional test conditions would significantly increase the cost and burden of testing. (True, No. 1.2.006 at pp. 131–132)

DOE understands that amending test procedures or including additional provisions in those test procedures could increase the burden on manufacturers to quantify the performance of their equipment. EPCA requires that the test procedures promulgated by DOE be reasonably designed to produce test results that reflect energy efficiency, energy use, and estimated operating costs of the covered equipment during a representative average use cycle. It also requires that the test procedure not be unduly burdensome to conduct. (42 U.S.C. 6314(a)(2))

DOE has analyzed the expected incremental cost of the proposed test procedure changes and its impact on manufacturers. The proposed changes to the test procedure consist of: Updating the referenced industry test procedures to the most current versions; testing requirements for units sold with night curtains and lighting occupancy sensors or controls installed; and provisions for testing units that cannot operate at the specified 38 °F integrated average product temperature.

All commercial refrigeration equipment for which standards were set in EPACT 2005 are currently required to be tested using the DOE test procedure to show compliance with the EPACT 2005 standard levels. Equipment for which standards were set in the 2009 final rule will similarly be required to test units using the DOE test procedure to show compliance with the 2009 standards levels beginning January 1, 2012. The current DOE test procedure references AHRI Standard 1200–2006 and AHAM HRF–1–2004. This test procedure consists of one 24-hour test at standard rating conditions to determine daily energy consumption.

The updated versions of AHRI Standard 1200–2010 and AHAM HRF–1–2008 do not vary substantially from the previously referenced versions. Aligning the DOE test procedure with the most recent industry test procedures currently in use—AHRI standard 1200–2010 and AHAM HRF–1–2008—will simplify testing requirements and reduce the burden of testing for both small and large manufacturers.

For equipment that could be sold with night curtains installed, the current test procedure requires one 24-hour test without the night curtain installed. To minimize the additional burden of test on manufacturers, under the proposed revisions, if a unit is tested and shows compliance with the relevant energy conservation standard without night curtains installed, that unit can also be sold with night curtains installed without additional testing. In addition, if a manufacturer chose to sell cases only with night curtains installed, only one 24-hour test would be required. If, however, a piece of equipment does not meet DOE's energy conservation standards without night curtains installed, DOE proposes to allow the unit to be tested a second time with night curtains installed. In this instance, assuming the energy conservation standard is met, the case would also be required to be sold with night curtains installed. This would require an increased burden of test on only those units that cannot show compliance with DOE energy conservation standards

without night curtains installed. As DOE proposes to incorporate provisions for testing a unit with night curtains installed into the same 24-hour test, the burden of conducting the test with and without night curtains is approximately the same.

For units sold with lighting occupancy sensors and scheduled controls installed, no additional testing or measurements will be required. Manufacturers will use a calculation method to determine the energy savings due to lighting occupancy sensors and scheduled controls. DOE believes that additional calculations will only require a few additional minutes of testing time, which represents approximately a 25-percent increase in the calculation intensity of the test. When compared to the physical testing segment of the procedure, which takes, a minimum of 24 hours, the additional calculations required by the lighting occupancy sensor and scheduled control requirements would increase the total burden of the test by less than an estimated 0.01 percent. In addition, this additional burden would be required only for units that cannot comply with the energy conservation standard with lighting occupancy sensors or controls installed. Thus, DOE believes that the proposed additional calculations for lighting occupancy sensors and controls would not significantly increase the burden of test for manufacturers of covered products.

For equipment that cannot be tested at the 38 °F integrated average product temperature, manufacturers are currently required to test the unit using AHRI Standard 1200 at the 38 °F test temperature. Under the proposed revisions, these manufacturers would be allowed to test units that cannot meet the 38 °F test temperature to be tested at the lowest application product temperature, with the only difference being the integrated average product temperature. Since the same test is being performed in both cases, DOE believes that this will not increase the burden of test for those manufacturers and is likely to lead to more representative energy consumption values. DOE notes that AHRI Standard 1200–2010 test is often already performed by a manufacturer for participation in voluntary programs, independent collection of energy consumption information, or other reasons.

The proposed changes to the test procedure for commercial refrigeration equipment were chosen to help minimize the impact of additional testing while updating industry standards to reflect the most current

versions, capture new energy efficiency technologies, and provide more accurate test procedures for equipment that cannot be tested at the currently prescribed integrated average product temperature. For the reasons stated above, DOE believes that the proposed test procedures would not be unduly burdensome to conduct.

For further discussion of the economic impact of additional testing on the small CRE manufacturers, as the entities that would be the most impacted from additional testing requirements, please see section IV.C of today's NOPR.

DOE requests comment on its conclusion that the proposed test procedure changes would not be unduly burdensome to conduct.

#### 4. Testing of Transient Technologies and at Variable Refrigeration Load

During the Framework public meeting and comment period, several interested parties commented on incorporating provisions into the test procedure to capture the effects of features that operate to reduce energy consumption at variable refrigeration load or at variable time periods. California Codes and Standards stated that ASHRAE Standard 72 is only a steady-state test, and that the test would not capture a number of transient measures that may produce significant energy savings in the field. (California Codes and Standards, No. 1.2.006 at p. 13) The American Council for an Energy-Efficient Economy (ACEEE) emphasized that it believes that a single metric is not adequate to describe CRE operation and that DOE should at least look at part-load and full-load metrics. (ACEEE, No. 1.2.006 at pp. 69–70) California Codes and Standards also stated that test methods should be developed for the purpose of measuring the maximum possible energy savings, and that this should include a part-load test. (California Codes and Standards, No. 1.3.005 at p. 1)

DOE finds that there are two types of transient technologies: Those that operate as a function of variable ambient conditions and those that operate at variable times to reduce refrigeration load. DOE discussed the technologies that operate at variable times (night curtains and occupancy sensors) in section A.3 above; a discussion of the technologies that operate as a function of variable ambient conditions is provided below.

Technologies that operate as a function of variable ambient conditions can reduce annual energy consumption of commercial refrigeration equipment by adapting to changes in refrigeration

load that result from changes in ambient conditions. These variable load, or part-load, technologies include higher efficiency expansion valves, condenser fan motor controllers, and anti-sweat heater controllers. ASHRAE Standard 72–2005 calls for testing at a single ambient temperature and relative humidity, so technologies that are designed to reduce energy use under variable ambient conditions will not affect the measured combined daily energy consumption (CDEC) per the existing test procedure.

An independent test to quantify the performance of technologies that decrease energy use at variable refrigeration load would most likely involve testing a unit at different ambient conditions, including lower temperatures and humidities. However, section 342 of 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 cycle of use (as determined by the Secretary), and shall not be unduly burdensome to conduct.” (42 U.S.C. 6314(2))

It is DOE's understanding that, although ASHRAE Standard 72–2005 is a steady-state test, some variation in refrigeration load is experienced in display cases with doors as part of the door opening requirement included in that test. When the doors are opened, the refrigeration load increases because warm ambient air has entered the case. If the equipment being tested has more efficient operation at variable refrigeration load, the case will use less energy overall. In this way, the effects of variable load, or part-load, features are already captured to some degree in the current test procedure for commercial refrigeration equipment with doors. Similarly, if the test procedure is altered to capture decreased energy consumption as a result of night curtain use, the efficacy of many part-load technologies in open cases will also be captured.

Further, additional independent or explicit part-load testing will result in increased cost and burden for manufacturers of covered products. During the May 2010 Framework public meeting, True expressed a concern that there is a learning curve associated with how to test equipment at standard conditions (True, No. 1.2.006 at pp. 133–134) and that introducing additional test conditions would significantly increase the cost and burden of testing. (True, No. 1.2.006 at pp. 131–132) From conversations with

manufacturers, DOE estimates that part-load testing at additional rating conditions could more than double the cost and burden of testing for all commercial refrigeration equipment. DOE believes that explicit testing at multiple sets of conditions is not justified because of this increased burden. Thus, the DOE test procedure will continue to rely on one standard rating condition, relying on the transient effects inherent in the proposed test procedure to capture part-load performance.

#### 5. Rating Temperatures

During the Framework public meeting, True stated that the current standard only directly addresses a standard ambient test condition of 75 °F and 55 percent relative humidity, but that the Food and Drug Administration and NSF standards also include an 80 °F ambient condition. (NSF International was founded in 1944 as the National Sanitation Foundation; the organization's name is now simply NSF.) True also stated that higher real-world operating temperatures will impact the energy use of commercial refrigeration equipment in some applications. (True, No. 1.2.006 at p. 38) California Codes and Standards added that it is important to verify that systems operating under extreme ambient conditions can perform safely at those temperatures and humidities. (California Codes and Standards, No. 1.2.006 at p. 133) True further asserted that equipment tested at 75 °F and 55 percent relative humidity will perform differently than if operated at 95 °F and 95 percent relative humidity. (True, No. 1.2.006 at p. 129) ACEEE added that perhaps there should be an adverse temperature and humidity rating condition to ensure that equipment will operate effectively in those scenarios. (ACEEE, No. 1.2.006 at p. 131) Southern Store Fixtures commented that if additional test conditions are used, equipment that operates outside of these conditions should be exempt. (Southern Store Fixtures, No. 1.2.006 at p. 133) Zero Zone, however, stated that testing at a variety of ambient conditions could become burdensome and the 75/55 condition is a sound compromise. (Zero Zone, No. 1.2.006 at p. 130)

DOE received similar comments on the 2009 CRE energy conservation standard NOPR. Those comments encouraged DOE to differentiate between NSF Type I equipment, which is tested at standard test conditions, and NSF Type II equipment, which is tested at 80 °F. DOE found that the relative difference between Type I equipment designed to be operated at the standard

DOE received similar comments on the 2009 CRE energy conservation standard NOPR. Those comments encouraged DOE to differentiate between NSF Type I equipment, which is tested at standard test conditions, and NSF Type II equipment, which is tested at 80 °F. DOE found that the relative difference between Type I equipment designed to be operated at the standard

test condition of 75 °F and Type II equipment designed to operate at 80 °F would not significantly impact the energy use of the equipment as tested at the 75 °F test condition. Thus, DOE concluded it was unnecessary to institute a distinction between Type I and Type II commercial refrigeration equipment. 74 FR 1092, 1117 (Jan. 9, 2009).

The current DOE test procedure requires that energy consumption testing for all commercial refrigeration equipment covered in these rulemakings be conducted according to ASHRAE Standard 72–2005, which prescribes specific ambient conditions. DOE believes that equipment classified as NSF Type II can be tested at the standard rating conditions prescribed in the DOE test procedure without any significant additional burden on manufacturers. Accordingly, DOE proposes to continue to rate all commercial refrigeration equipment at the standard rating condition prescribed in the referenced industry test procedure.

DOE requests comment on the burden to manufacturers associated with testing NSF Type II equipment at the standard test condition.

#### 6. Energy Efficiency Features

DOE received a number of comments from stakeholders concerning energy efficiency features that exist for the explicit purpose of lowering energy consumption, such as lighting occupancy sensors and controls, night curtains, higher efficiency expansion valves, condenser fan motor controllers, and anti-sweat heater controllers. The Northwest Joint Comment stated that the current test procedure does not have the capacity to test all of the equipment classes and technology options that are likely to be within the scope of coverage for this rulemaking. (Adjuvant Consulting, No. 1.3.003 at pp. 1–2) True commented that the test procedure should represent a baseline level of energy consumption with no energy efficiency devices enabled. (True, No. 1.2.006 at pp. 63–64) Southern Store Fixtures commented that some of these devices, such as night curtains, may not be used by 24-hour stores (Southern Store Fixtures, No. 1.2.006 at pp. 66–67), and also suggested that DOE consult with end users of these energy efficiency features before considering them. (Southern Store Fixtures, No. 1.2.006 at p. 67) True stated that energy controls have a variety of different features and energy conservation levels, and that they are sometimes already tested by manufacturers. (True, No. 1.2.006 at p. 65) The Northwest Joint

Comment added that a percent time off assumption or scaling factor might not be adequate to capture the effects of all time-dependent technology options. (Adjuvant Consulting, No. 1.3.003 at p. 3)

As part of this rulemaking effort, DOE has evaluated technology options suggested by interested parties and has developed provisions to quantify the performance of those options that can be specifically addressed while still meeting the statutory requirements of a test procedure. Specific proposed changes include provisions for measuring the energy impacts of lighting occupancy sensors and controls, and night curtains. Other technologies, such as higher efficiency expansion valves, condenser fan motor controllers, and anti-sweat heater controllers, are technologies that function to reduce energy consumption at part-load conditions. As discussed in section III.A.4, “Testing of Transient Technologies and at Variable Refrigeration Load,” the energy saving potential of these technologies is already captured to some degree in the current test procedure. Further, DOE believes that explicit testing for these energy efficiency technologies that reduce energy consumption at part load is not justified because it would significantly increase the testing burden.

DOE requests comment on the burden to test energy efficiency technologies other than those explicitly accounted for in this test procedure revision, namely night curtains and lighting occupancy sensors and scheduled control.

#### B. Summary of the Test Procedure Revisions

Today’s proposed rule contains the following proposed changes to the test procedure in 10 CFR part 431, subpart C.

##### 1. Update References to Industry Test Procedures to Most Current Versions

The current DOE test procedure for commercial refrigeration equipment adopted ARI Standard 1200–2006, with additional provisions for testing ice-cream freezers at –15 °F, as the test procedure used to measure the energy consumption of a piece of commercial refrigeration equipment to establish compliance with the applicable energy conservation standard. Since the publication of the 2006 test procedure final rule, AHRI has released an updated version of the test procedure, AHRI Standard 1200–2010. The updated test procedure includes both editorial and technical changes to the equipment class nomenclature used within the test procedure, the test product temperature

for ice-cream freezers, and the method of normalizing and reporting units for equipment energy consumption. These changes align the test procedure with the nomenclature and methodology used in the 2009 DOE energy conservation standard final rule. AHRI Standard 1200–2010 is the test procedure currently used in industry, and DOE proposes to adopt it as the DOE test procedure.

The current DOE test procedure also references AHAM HRF–1–2004 as the protocol for determining refrigerated compartment volume. AHAM has also updated its Standard HRF–1–2004. The most recent version is AHAM HRF–1–2008, which makes editorial changes including reorganizing some of the sections for simplicity and usability. The newly updated AHRI 1200–2010 also references AHAM HRF–1–2008. For consistency, DOE proposes to adopt the more recent AHAM HRF–1–2008 for measuring refrigerated compartment volume.

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

##### 2. Include Method for Determining Energy Savings Due to the Use of Night Curtains on Open Cases

The current test procedure, ARI Standard 1200–2006, and method of test, ASHRAE Standard 72–2005, do not account for potential energy savings resulting from the use of night curtains on open cases. Night curtains are devices made of an insulating material, typically insulated aluminum fabric, designed to be pulled down over the open front of the case (similar to the way a window shade operates) when the merchandizing establishment is closed or the customer traffic is significantly decreased. The insulating shield, or night curtain, decreases infiltration and mixing of the cool air inside the case with the relatively warm, humid air in the store interior. It also reduces conductive and radiative heat transfer into the case. This can reduce compressor loads and defrost cycles, significantly decreasing energy use. A 1997 study by the Southern California Edison Refrigeration Technology and Test Center found that, when used for 6 hours per day, night curtains reduce total energy use of the case by approximately 8 percent.<sup>2</sup>

To allow manufacturers to account for the possible energy savings of cases sold

<sup>2</sup> Southern California Edison, Refrigeration and Technology and Test Center, Energy Efficiency Division. *Effects of the Low Emissivity Shields on Performance and Power Use of a Refrigerated Display Case*. August 1997. Available at [http://www.econofrost.com/acrobat/sce\\_report\\_long.pdf](http://www.econofrost.com/acrobat/sce_report_long.pdf).



with night curtains, DOE intends to adopt a standardized physical test method. A physical test would accurately capture differences in energy use reduction as a function of similar technologies and case dimensions. It is important to capture the differences in energy use reduction from similar technologies because of the large performance disparities that can exist. For example, night curtains made of low-emissivity materials, such as aluminum, decrease the radiative losses from the case and therefore are much more effective at reducing heat loss than night curtains made of plastic, linoleum, or other non-reflective materials. In addition, each night curtain may reduce infiltration differently depending on its insulating characteristics and design. The case dimensions and default infiltration load also impact night curtain performance. As such, a physical test will also accurately capture differences in the energy conservation utility of night curtains as a function of case dimension.

DOE proposes using the following physical test method, as specified by ASHRAE Standard 72–2005. This method would be similar to section 7.2 in ASHRAE Standard 72–2005, “Door-Opening Requirements,” and would read as follows:

*Night Curtain Requirements.* For open display cases sold with night curtains installed, the night curtain shall be employed according to manufacturer instructions for a total of 6 hours, 3 hours after the start of a defrost period. Upon the completion of the 6-hour period, the night curtain shall be raised until the completion of the 24-hour test period.

DOE proposes a 6-hour test period to approximate the typical usage of a night curtain. In studies analyzing the effects of night curtain use, such as the previously cited 1997 study by the Southern California Edison Refrigeration Technology and Test Center, a similar 6-hour time period has been used. The test for night curtains would apply only to cases sold with night curtains installed. The assumptions made in the testing of night curtains may not reflect their use in the field in all applications. However, this test would be a standard for all cases sold with night curtains, regardless of their anticipated use.

DOE requests comment on the proposal for the incorporation of night curtains into the DOE test procedure.

### 3. Include Calculation for Determining Energy Savings Due to Use of Lighting Occupancy Sensors or Controls

The current test procedure, ARI Standard 1200–2006, and method of test, ASHRAE Standard 72–2005, do not account for potential energy savings resulting from the use of lighting occupancy sensors and scheduled controls. The energy savings due to the use of occupancy-based sensors or schedule-based controls will vary in the field due to differing environmental and operating conditions. However, studies, including a demonstration project conducted through the DOE GATEWAY program, have shown that lighting occupancy sensors or controls could reduce the total energy use of a typical refrigerated merchandising unit operating in a grocery store by up to 40 percent.<sup>3</sup>

Lighting occupancy sensors and schedule-based control systems are designed to reduce the amount of time that lights are on within commercial refrigeration equipment. Lighting occupancy sensors use passive infrared, ultrasonic, or other motion-sensing technology to detect the presence of a customer or employee. These sensors turn off or dim the lights within the equipment when no motion is detected in the sensor’s coverage area. Schedule-based lighting controls allow lights to be turned off or dimmed at scheduled times throughout the day. The energy efficiency benefits from reducing case lighting energy use are two-fold, because both the direct electricity consumption of the lights and the heat load on the refrigeration system are decreased. Light-emitting diode technology, used in much of today’s new commercial refrigeration equipment, lends itself to rapid on/off cycling or dimming, which enables the use of occupancy sensors or scheduled controls, or both. Lighting occupancy sensors and scheduled controls can be addressed similarly based on available energy usage data.

DOE proposes using an analytical method similar to equation 4, section 5.2.3 of AHRI Standard 1200–2010, to calculate the energy use of lighting within the refrigerated volume. Equation 1 presents a method to calculate the direct lighting energy consumption ( $LEC_{sc}$ ) with lighting occupancy sensors and controls deployed for either remote condensing or self-contained units.

$$LEC_{sc} = \frac{(P_{li} \times t_{sc}) + (P_{li(off)} \times t_{off}) + (P_{li(dim)} \times t_{dim})}{1000} \quad \text{Eq. 1}$$

Where:

$LEC_{sc}$  = lighting energy consumption of internal case lights with lighting occupancy sensors and controls deployed (kilowatt-hours);

$P_{li}$  = rated power of lights when they are fully on (watts);

$P_{li(off)}$  = power of lights when they are off (watts);

$P_{li(dim)}$  = power of lights when they are dimmed (watts);

$t_{sc}$  = time period when lighting is fully on with lighting occupancy sensors and controls enabled (hours);

$t_{off}$  = time period which the lights are off due to the use of lighting occupancy sensors or scheduled controls (hours); and

$t_{dim}$  = time period which the lights are dimmed due to the use of lighting occupancy sensors or scheduled controls (hours).

In equation 1,  $t_{off}$  and  $t_{dim}$  are determined based on the sum of any contribution from lighting occupancy sensors and scheduled controls that turn off or dim lighting, respectively. These values are summed, as shown in equation 2, to determine the total amount of time lighting is dimmed or off.

<sup>3</sup> U.S. Department of Energy. *Demonstration Assessment of Light-Emitting Diode (LED) Freezer Case Lighting*. October 2009. Prepared by Pacific

Northwest National Laboratory for the U.S. DOE Solid State Lighting Technology Demonstration GATEWAY Program. Available at <http://>

[apps1.eere.energy.gov/buildings/publications/pdfs/ssl/gateway\\_freezer-case.pdf](http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/gateway_freezer-case.pdf).



$$t_{off} = t_{off,sensors} + t_{off,controls} \tag{Eq. 2}$$

$$t_{dim} = t_{dim,sensors} + t_{dim,controls}$$

Where:

- $t_{off}$  = time period which the lights are off due to the use of lighting occupancy sensors or scheduled controls (hours);
- $t_{dim}$  = time period which the lights are dimmed due to the use of lighting occupancy sensors or scheduled controls (hours);
- $t_{off,controls}$  = time case lighting is off due to the use of lighting controls (hours);
- $t_{dim,controls}$  = time case lighting is dimmed due to the use of lighting controls (hours);
- $t_{off,sensors}$  = time case lighting is off due to the use of lighting occupancy sensors (hours); and
- $t_{dim,sensors}$  = time case lighting is dimmed due to the use of lighting occupancy sensors (hours).

As the test procedure is for 24-hour time period, the sum of  $t_{sc}$ ,  $t_{off}$ , and  $t_{dim}$  should equal 24 hours. DOE also proposes that the total time period during which the lights are off or dimmed shall not exceed 10.8 hours based on the maximum estimated energy savings from lighting occupancy sensors and controls. This limit is established to prevent double counting of energy savings in equipment where both lighting occupancy sensors and schedule based controls are installed.

$$t_{sc} = t_l - t_{off} - t_{dim} \tag{Eq. 3}$$

Where:

- $t_{off}$  = time period which the lights are off due to the use of lighting occupancy sensors or scheduled controls (hours);
  - $t_{dim}$  = time period which the lights are dimmed due to the use of lighting occupancy sensors or scheduled controls (hours);
  - $t_{sc}$  = time period when lighting is fully on with lighting occupancy sensors and controls enabled (hours);
  - $t_l$  = time period when lighting would be on without lighting occupancy sensors or controls (24 hours);
- with the sum of all  $t_{off}$  and  $t_{dim}$  from both lighting occupancy sensors and controls not to exceed 10.8 hours.

In equation 2, the time the case lighting is dimmed or off due to scheduled lighting controls ( $t_{off,controls}$  or  $t_{dim,controls}$ , as applicable) will be 8 hours for those cases with lighting controls installed. This will depend on whether the controls dim or turn off lights. A time off period of 8 hours was chosen for scheduled controls to approximate the typical usage of lighting control products based on comments received during previous DOE rulemakings for this equipment. Specifically, during the previous rulemaking for commercial refrigeration equipment, California Utilities commented that 8 hours reflected the California predicted “low load” period. (Docket number EERE–2006–BT–STD–0126, California Joint Comment, No. 41, at p. 12)

The time the case lighting is off or dimmed due to lighting occupancy sensors ( $t_{off,sensors}$  or  $t_{dim,sensors}$ , as applicable) will be 2.8 or 10.8 hours for cases with lighting occupancy sensors installed, depending on whether scheduled controls are also installed. For equipment with only lighting occupancy sensors installed  $t_{off,sensors}$  or  $t_{dim,sensors}$ , as applicable, will be 10.8 hours. For equipment with both lighting occupancy sensors and lighting controls installed, the lighting controls will be assumed to override the occupancy sensor during the time the lighting control is used to reduce case lighting. Thus, the time the case lighting is off or dimmed due to lighting occupancy sensors ( $t_{off,sensors}$  or  $t_{dim,sensors}$ , as applicable) will be 2.8 hours for equipment with lighting occupancy sensors and lighting controls installed. The time off period for lighting occupancy sensors was derived based on the previously cited demonstration

project conducted through the DOE GATEWAY program.

Equations 1, 2, and 3 can be used to calculate the energy use of CRE whether the equipment utilizes lighting occupancy sensors or control, and whether the light settings are set at fully on, fully off, or dimmed. For example, consider a situation in which lighting that is dimmed throughout the day by occupancy sensors and is turned off completely by scheduled controls during closing hours. In this example,  $t_{dim}$  for the dimmed occupancy sensor would be 2.8 hours, and  $t_{off}$  for the scheduled lighting control, which turns off the lights, would be 8 hours. The sum of  $t_{off}$  and  $t_{dim}$  would be equal to the maximum 10.8 hours. In this example, both  $t_{dim,controls}$  and  $t_{off,sensors}$  would equal zero.

In addition to conserving energy directly through decreased lighting electrical load, occupancy sensors also decrease the heat load from lights that are located inside the refrigerated space on the refrigeration equipment. Therefore, a second calculation is necessary to account for these energy impacts. This second calculation quantifies the reduced compressor energy use, which is then used to calculate total energy use, as described below.

For remote condensing equipment, the calculation of Alternate Component Indirect Effect in section 5.4 of AHRI Standard 1200–2010 can be used to measure the energy impacts on the compressor. Thus, for remote condensing equipment, equation 4, from AHRI Standard 1200 equations 5.4 and 5.4.2, can be applied to calculate the decreased compressor power due to use of lighting occupancy sensors and controls.

$$CEC_A = 0.75 \times \frac{3.4121 \times (LEC_{sc} - P_{li} \times t_l / 1000)}{EER} \tag{Eq. 4}$$

Where:

- $CEC_A$  = Alternate Compressor Energy Consumption (kilowatt-hours);
- $LEC_{sc}$  = lighting energy consumption of internal case lights with lighting occupancy sensors and controls deployed (kilowatt-hours);
- $P_{li}$  = rated power of lights when they are fully on (watts);

- $t_l$  = time lighting would be on without lighting occupancy sensors or controls (24 hours); and
- $EER$  = energy efficiency ratio from Table 1 in AHRI Standard 1200–2010 for remote condensing equipment and the values shown in Table III.1 of this document for self-contained equipment (British thermal units/watt).

TABLE III.1. EER FOR SELF-CONTAINED COMMERCIAL REFRIGERATED DISPLAY MERCHANDISERS AND STORAGE CABINETS

Operating temperature class	EER Btu/W
Medium .....	11.26
Low .....	7.14

TABLE III.1. EER FOR SELF-CONTAINED COMMERCIAL REFRIGERATED DISPLAY MERCHANDISERS AND STORAGE CABINETS—Continued

Operating temperature class	EER Btu/W
Ice Cream .....	4.80

Note:  
 1 EER values for operating temperature classes are calculated based on the average EER value of all equipment in that class which was analyzed as part of the previous (2009) rulemaking. This does not include equipment for which standards were set by Congress in EPACT 2005 (VCT, VCS, HCT, HCS, and SOC at M and L temperatures) or classes for which standards were set using extension multipliers in the 2009 rulemaking (VOP.SC.L, SVO.SC.L, VOP.SC.I, SVO.SC.I, HZO.SC.I, VOP.SC.I, SVO.SC.I, HZO.SC.I, HCS.SC.I, SOC.SC.I).

<sup>2</sup>These values only represent compressor EER and do not include condenser fan energy use.

The  $CEC_A$  includes a multiplication factor of 0.75 to account for the fact that not all of the heat produced from the lights will impact the compressor load. The factor of 0.75 was suggested by manufacturers during discussions with the AHRI Standard 1200 engineering committee.

For remote condensing commercial refrigerators, freezers, and refrigerator-freezers with lighting occupancy sensors, controls, or both installed, the revised compressor energy consumption ( $CEC_R$ ) shall be the  $CEC_A$  added to the compressor energy consumption (CEC) measured in AHRI Standard 1200–2010, as shown in equation 5.

$$CEC_R = CEC + CEC_A \quad \text{Eq. 5}$$

Where:

$CEC_R$  = reduced compressor energy consumption (kilowatt-hours);  
 $CEC$  = compressor energy consumption as measured by AHRI Standard 1200 (kilowatt-hours); and  
 $CEC_A$  = alternate compressor energy consumption (kilowatt-hours).

The  $CEC_R$  and  $LEC_{sc}$  value would then be substituted for the lighting energy consumption (LEC) and CEC without controls or sensors in the calculation of CDEC for remote condensing cases as shown in equation 6.

$$CDEC = CEC_R + FEC + LEC_{sc} + AEC + DEC + PEC \quad \text{Eq. 6}$$

Where:

$CDEC$  = combined daily energy consumption (kilowatt-hours);  
 $CEC_R$  = reduced compressor energy consumption (kilowatt-hours);  
 $FEC$  = fan energy consumption (kilowatt-hours);  
 $LEC_{sc}$  = lighting energy consumption with lighting sensors and controls deployed (kilowatt-hours);

$AEC$  = anti-condensate energy consumption (kilowatt-hours);  
 $DEC$  = defrost energy consumption (kilowatt-hours); and  
 $PEC$  = condensate evaporator pan energy consumption (kilowatt-hours).

For self-contained equipment, the  $CEC_A$  and  $LEC_{sc}$  would be calculated as above and then used directly with the

total daily energy consumption as measured by AHRI Standard 1200–2010, with the lights fully on to determine the daily energy consumption used to show compliance with the DOE energy conservation standard for this equipment as shown in equation 7. For self-contained equipment:

$$TDEC = TDEC_o + CEC_A - \left( \frac{KPL_i \times t_i}{1000} - LEC_{sc} \right) \quad \text{Eq. 7}$$

Where:

$TDEC_o$  = total daily energy consumption with lights fully on, as measured by AHRI Standard 1200–2010 (kilowatt-hours);  
 $P_{li}$  = rated power of lights when they are fully on (watts);  
 $t_i$  = time period when lights would be on without lighting occupancy sensors or controls (24 hours); and  
 $LEC_{sc}$  = lighting energy consumption with lighting occupancy sensors and controls deployed (kilowatt-hours).

The test procedure modifications to account for lighting occupancy sensors and controls would only apply to commercial refrigeration equipment sold with lighting occupancy sensors and controls installed by the manufacturers. However, this analytical method would place the least additional burden on manufacturers and would be a standard for all commercial refrigeration equipment sold with lighting occupancy sensors and controls, regardless of their anticipated use.

DOE requests comment on the proposed calculation method for treatment of lighting occupancy sensors

and controls in the DOE test procedure for commercial refrigeration equipment. Specifically, DOE requests comment on the values assumed for the time period when lighting is off or reduced due to lighting occupancy sensors or controls and the factor used to scale the amount of heat produced by case lighting.

4. Include Provision for Testing at Lowest Application Product Temperature

During the Framework public meeting and Framework comment period of the 2009 energy conservation standard rulemaking, DOE received comments on the inclusion of “application temperatures” for commercial refrigeration equipment. Application temperatures are rating temperatures other than the standard rating temperatures prescribed by DOE’s test procedures (38 °F for commercial refrigerators, 0 °F for commercial freezers, and –15 °F for commercial ice-cream freezers). Interested parties commented that allowing for an application temperature category is

essential because operating temperature plays a key role in equipment energy consumption. However, interested parties stated that the application temperature category should be reserved for equipment that cannot operate at 0 °F or at 38 °F; that DOE should not regulate equipment that has few shipments; and that appropriate Federal standards and rating temperatures should be developed for equipment with large numbers of shipments.

DOE analyzed the shipments data provided by ARI during the Framework comment period of the 2009 rulemaking. DOE found that, excluding equipment for which EPACT 2005 amended EPCA to set standards (self-contained commercial refrigerators and commercial freezers with doors), only 1.7 percent of units under the previous rulemaking were equipment that operate at “application temperatures,” namely 45 °F, 20 °F, 10 °F, or –30 °F. Of these, units that operate at 45 °F (typically “wine chillers”) had the highest shipments, and these were predominantly remote condensing

equipment. Given the relatively low shipment volumes of equipment that operates at application temperatures, DOE did not develop separate standards for equipment that operates at an application temperature different than one of the three prescribed rating temperatures. 72 FR 41162, 41168–69 (July 26, 2007).

During the May 2010 Framework public meeting, several parties again commented that some equipment covered under this rulemaking is designed to operate at significantly higher temperatures than the designated temperature for that product class. Specifically, California Codes and Standards stated that DOE should review test methods for niche equipment that may require different temperature criteria and schedules. (California Codes and Standards, No. 1.3.005 at p. 3) Structural Concepts also stated that some types of equipment, such as candy and wine cases, operate at 55 or 60 °F, yet would have to be tested at 38 °F to meet a standard. This is an issue because these units are not designed to operate at that temperature. (Structural Concepts, No. 1.2.006 at p. 59).

DOE recognizes that this type of equipment may not be able to maintain an integrated average temperature of 38 °F, as required by the current DOE test procedure. DOE also acknowledges that self-contained commercial refrigerators comprise most of the equipment that operates at temperatures higher than the 38 °F rating temperature. However, these equipment classes were not included in the 2009 rulemaking analysis of products that operate at application temperature because they were not included in the scope of that rulemaking. Because self-contained refrigerators are included in the current energy conservation standard rulemaking, the shipment volume of this equipment that operates at temperatures higher than 38 °F may increase.

AHRI Standard 1200–2010 has provisions for such equipment to be rated at the application product temperature. For equipment that operates at a temperature that is not one of the specified rating temperatures, DOE believes that allowing such equipment to be tested at its application product temperature could create a loophole that would allow manufacturers to certify less-efficient equipment. This loophole would enable a manufacturer to sell equipment that can operate at one of the prescribed test temperatures, but would not comply with the standard if tested at that test temperature because that equipment

would comply when tested at the higher application temperature.

However, equipment that operates at temperatures greater than the 38 °F rating temperature may be able to become more efficient if allowed to be tested at temperatures other than 38 °F and may represent a large enough shipment volume to warrant a separate rating temperature. Thus, DOE proposes including a provision for rating refrigerators that cannot operate at the prescribed 38 °F integrated average product temperature at the lowest application product temperature. In the context of this rulemaking, the “lowest application product temperature” would be defined as the lowest temperature setting that can be maintained for the duration of the test. In this case, the integrated average product temperature achieved during the test should be recorded. Equipment tested at the lowest application product temperature will still be required to comply with the standard for its respective equipment class.

DOE requests comment on the provision for testing commercial refrigerators that cannot be tested at 38 °F at the lowest application product temperature.

#### IV. Regulatory Review

##### A. Review Under Executive Order 12866

The Office of Management and Budget 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 Office of Management and Budget (OMB).

##### B. 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 commercial refrigeration equipment. 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 will not affect the quality or distribution of

energy usage and therefore will not result in any environmental impacts. Accordingly, neither an environmental assessment nor an environmental impact statement is required.

##### C. 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 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 (August 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 (February 12, 2003). DOE has made its procedures and policies available on the Office of the General Counsel’s Web site: <http://www.gc.doe.gov>.

DOE reviewed today’s proposed rule, which would amend the test procedures for commercial refrigeration equipment, under the provisions of the Regulatory Flexibility Act and the procedures and policies published on February 19, 2003. DOE tentatively concludes and certifies that the proposed rule, if adopted, would not result in a significant impact on a substantial number of small entities. The factual basis for this certification is set forth below.

DOE used the small business size standards published on January 31, 1996, as amended, by the SBA to determine whether any small entities would be required to comply with the rule. 61 FR 3286; see also 65 FR 30836, 30848 (May 15, 2000), as amended at 65 FR 53533, 53544 (September 5, 2000). The size standards are codified at 13 CFR part 121. The standards are listed by NAICS code and industry description and are available at [http://www.sba.gov/idc/groups/public/documents/sba\\_homepage/serv\\_sstd\\_tablepdf.pdf](http://www.sba.gov/idc/groups/public/documents/sba_homepage/serv_sstd_tablepdf.pdf). Commercial refrigeration equipment manufacturing is classified under NAICS 333415, “Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing.” 70 FR 12395 (March 11, 2005). Small entities within this industry description are those with 750 employees or fewer.

Analysis of the manufacturers in the commercial refrigeration equipment market identified 22 small manufacturers that will be directly

regulated by this rule. DOE seeks comment on its estimate of the number of small businesses in the CRE market.

The proposed changes to the test procedure consist of updating the referenced industry test procedures to the most current versions; testing requirements for units sold with night curtains and lighting occupancy sensors or controls installed; and provisions for testing units that cannot operate at the specified 38 °F integrated average product temperature.

All commercial refrigeration equipment for which standards were set in EPACT 2005 are currently required to be tested using the DOE test procedure to show compliance with the EPACT 2005 standard levels. Manufacturers of equipment for which standards were set in the 2009 final rule will similarly be required to test units using the DOE test procedure to show compliance with the 2009 standards levels beginning January 1, 2012. The current DOE test procedure references AHRI Standard 1200–2006 and AHAM HRF–1–2004. This test procedure consists of one 24-hour test at standard rating conditions to determine daily energy consumption. Aligning the DOE test procedure with the most recent industry test procedures currently in use—AHRI standard 1200–2010 and AHAM HRF–1–2008—will simplify testing requirements and reduce the burden of testing for both small and large manufacturers.

For equipment that could be sold with night curtains installed, the current test procedure requires one 24-hour test without the night curtain installed. To minimize the additional burden of test on manufacturers, under the proposed revisions, if a unit is tested and shows compliance with the relevant energy conservation standard without night curtains installed, that unit can also be sold with night curtains installed without additional testing. In addition, if a manufacturer chose to sell cases only with night curtains installed, only one 24-hour test would be required. If, however, a piece of equipment does not meet DOE's energy conservation standards without night curtains installed, DOE proposes to allow the unit to be tested a second time with night curtains installed. In this instance, assuming the energy conservation standard is met, the case would also be required to be sold with night curtains installed. This would require an increased burden of test on only those units that cannot show compliance with DOE energy conservation standards without night curtains installed. As DOE proposes to incorporate provisions for testing a unit with night curtains installed into the same 24-hour test, the

burden of conducting the test with and without night curtains is approximately the same.

DOE estimates that testing a single unit in accordance with the current DOE test procedure takes 1 week of laboratory time and costs approximately \$5,000. If two tests are required, there will be an increase of approximately \$5,000 per unit tested. This estimate is based on information from manufacturers and private testing services quoted on behalf of DOE in the last 2 years for completing a test according to AHRI Standard 1200–2006 on commercial refrigerators, freezers, and refrigerator-freezers.

DOE also researched the number of CRE manufacturers that sell open cases, which would potentially be sold with a night curtain. DOE found that larger manufacturers typically offer more unique individual basic models than smaller manufacturers. DOE also found that the larger manufacturers sell more open cases than smaller manufacturers. DOE estimates that for both small and large manufacturers who offer open cases, open cases that could be sold with night curtains comprised about 20 percent of total models, or approximately between 1 and 50 models. While testing with and without night curtains will not be required for all these models, at this time DOE cannot predict the number of cases that will require two tests because the standards with which this test procedure will be used to show compliance have not been established. Therefore, assuming conservatively that half of the open cases that could be sold with night curtains will not meet the new energy conservation standards and will require two tests, DOE's analysis found that the incremental cost of running the extra tests ranged from approximately \$2,500 to \$125,000. Further, DOE identified that a single small manufacturer produces the majority of all open cases produced by small manufacturers. In fact, many small manufacturers identified by DOE did not sell open cases at all.

DOE understands, however, that small manufacturers have less expendable capital available and may be more affected by the additional cost of testing. To estimate the additional cost of testing due to night curtains for small manufacturers, DOE estimated the average cost of additional testing for all open cases compared to the average annual value added statistic. The average value added statistic is representative of an entity's annual gross operating margin and is calculated by subtracting the cost of materials, supplies, containers, fuel, purchased

electricity, and contract work from the value of shipments. DOE analyzed the impact on the smallest manufacturers of commercial refrigeration equipment since these manufacturers would likely be the most vulnerable to cost increases. For CRE manufacturers, the two smallest entities were in the 25 to 49 and 50 to 99 employee size category in NAICS 333415 as reported by the U.S. Census.<sup>4</sup> The average annual value added for manufacturers in these size ranges from the census data was \$2.97 to \$6.38 million in 2001\$, per the 2002 Economic Census, or approximately \$3.56 to \$7.64 million per year in 2010\$ after adjusting for inflation using the implicit price deflator for gross domestic product.<sup>5</sup>

DOE also examined the average value added statistic provided by Census for all manufacturers with between 100 and 249 employees in this NAICS classification as the most representative value from the 2002 Economic Census data of the CRE manufacturers. More than half (13 manufacturers) of the identified small manufacturers fell into this category, including the manufacturer that has the greatest percentage of open cases that could be sold with night curtains. The average annual value added statistic for all small manufacturers with between 100 and 249 employees was \$16.3 million (2010\$).

Given this data, and assuming the estimate of \$5,000 for the additional testing costs is accurate, DOE concluded that the additional costs for testing under the proposed requirements would be approximately 0.4 percent of annual value added for the two smallest firms. The additional costs would be approximately 0.3 percent of the average annual value added for representative small CRE manufacturers with between 100 and 249 employees. For the manufacturer that sells the greatest percentage of open cases that could be sold with a night curtain, 56 percent, DOE estimates the additional cost of testing would equal \$80,000, or 0.6 percent of the average annual value added.

The requirements for units sold with lighting occupancy sensors and controls will not include additional testing.

<sup>4</sup> U.S. Bureau of the Census, American Factfinder, 2002 Economic Census, Manufacturing, Industry Series, Industry Statistics by Employment Size, available at [http://factfinder.census.gov/servlet/IBQTable?\\_bm=y&-ds\\_name=ECO23114&-ib\\_type=NAICS2002&-NAICS2002=333415&-geo\\_id=&-industry=333415&-NAICS2002sector=8699171&-lang=en&-fds\\_name=ECO200A1](http://factfinder.census.gov/servlet/IBQTable?_bm=y&-ds_name=ECO23114&-ib_type=NAICS2002&-NAICS2002=333415&-geo_id=&-industry=333415&-NAICS2002sector=8699171&-lang=en&-fds_name=ECO200A1).

<sup>5</sup> U.S. Department of Commerce Bureau of Economic Analysis, available at <http://www.bea.gov/national/nipaweb/SelectTable.asp>.

Instead, DOE proposes incorporating a calculation method that will determine the energy impact of lighting occupancy sensors and controls. Again, manufacturers will only be required to show compliance of a unit with lighting occupancy sensors or controls installed if the equivalent unit without lighting occupancy sensors and controls does not comply with the applicable energy conservation standard. DOE believes that additional calculations will only require a few additional minutes of testing time, which represents about a 15 percent increase in the calculation intensity of the test. However, the physical test requirements are the far more burdensome and time-intensive portion of the test. When including the time of physical testing, a minimum of 24 hours, DOE estimates that the additional calculations required by the lighting occupancy sensor and scheduled control requirements would increase the total burden of test by less than 0.01 percent. Assuming the current cost of testing would be \$5,000 and a 0.01 increase cost in testing, this would represent an addition \$50 per unit. If additional calculation is required for a conservative 50 percent of units, the total incremental increase in cost of testing will range from \$50 to \$6,500 and will be less 0.0005 percent of the annual average value added for all CRE manufacturers, including small manufacturers.

For equipment that cannot be tested at the 38 °F integrated average product temperature, manufacturers currently are required to test the unit using AHRI Standard 1200 at the 38 °F test temperature. Under the proposed revisions, these manufacturers would be allowed to test units that cannot meet the 38 °F test temperature to be tested at the lowest application product temperature, with the only difference being the integrated average product temperature. Since the same test is being performed in both cases, DOE believes that this will not increase the burden of test for those manufacturers and, in fact, will lead to more representative energy consumption values. In addition, the provision for testing units that cannot operate at the specified 38 °F integrated average product temperature will affect only a small percentage of units. DOE believes there would not be an incremental increase in testing burden, for small or large manufacturers, due to this provision.

DOE believes that the total increase in testing burden resulting from the test procedure amendments proposed in this NOPR are almost exclusively due to the provisions for testing night curtains.

DOE estimates that the total increase in testing burden does not exceed 0.6 percent of average annual value added for any manufacturer of commercial refrigeration equipment, small or large. As the average value added statistic is representative of an entities annual gross operating margin, DOE concludes that 0.6 percent of this value is not a significant economic impact. Further, 0.6 percent of annual average value added was found for only the most impacted small manufacturer. DOE believes that one does not represent a substantial number.

Based on the factual basis stated above, DOE believes that the proposed test 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 required. 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 certification that the proposed test procedure changes will not have a significant impact on a substantial number of small entities.

#### *D. Review Under the Paperwork Reduction Act*

Manufacturers of commercial refrigeration equipment 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 commercial refrigeration equipment, 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 commercial refrigeration equipment. 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 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 Charlie 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.

#### *E. 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/>.) DOE reviewed today's proposed rule pursuant to UMRA and its policy and determined that the 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.

*F. 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.

*G. Review Under Executive Order 13132*

Executive Order 13132, "Federalism," 64 FR 43255 (August 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 does not preempt State law and does 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.

*H. 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 (February 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.

*I. 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 (February 22, 2002), and DOE's guidelines were published in 67 FR 62446 (October 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.

*J. 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 the Office of Information and Regulatory Affairs (OIRA), Office of Management and Budget, 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 would not have a significant adverse effect on the supply, distribution, or use of energy and therefore it is not a significant energy action. Accordingly, DOE has not prepared a Statement of Energy Effects.

*K. 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.

*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. When a proposed rule contains or involves use of commercial standards, the rulemaking must inform the public of the use and background of such standards. (15 U.S.C. 788 32)

The proposed rule incorporates testing methods contained in the following commercial standards: (1) ARI Standard 1200–2010 "Performance Rating of Commercial Refrigerated Display Merchandisers and Storage Cabinets;" and (2) AHAM Standard HRF–1–2008, "Energy, Performance and Capacity of Household Refrigerators, Refrigerator-Freezers and Freezers" section 3.21, "Volume," and sections 4.1 through 4.3, "Method for Computing Refrigerated Volume of Refrigerators, Refrigerator-Freezers, Wine Chillers, and Freezers." 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 about the impact on competition of using the methods contained in these standards before prescribing a final rule.

## V. Public Participation

### A. Attendance at Public Meeting

The time and date of the public meeting are listed in the **DATES** and **ADDRESSES** sections at the beginning of this NOPR. The public meeting will be held at the U.S. Department of Energy, Forrestal Building, Room 1E-245, 1000 Independence Avenue, SW., Washington, DC 20585-0121. To attend the public meeting, please notify Ms. Brenda Edwards at (202) 586-2945. Any foreign national wishing to participate in the meeting should advise DOE of this fact as soon as possible by contacting Ms. Brenda Edwards to initiate the necessary procedures.

### B. Procedure for Submitting Requests to Speak

Any person who has an interest in today's notice or who is a representative of a group or class of persons that has an interest in these issues may request an opportunity to make an oral presentation. Such persons may hand-deliver requests to speak, along with a computer diskette or CD in WordPerfect, Microsoft Word, PDF, or text (ASCII) file format to the address shown in the **ADDRESSES** section at the beginning of this NOPR between 9 a.m. and 4 p.m. Monday through Friday, except Federal holidays. Requests may also be sent by mail or e-mail to

*Brenda.Edwards@ee.doe.gov*.

Persons requesting to speak should briefly describe the nature of their interest in this rulemaking and provide a telephone number for contact. DOE requests persons selected to be heard to submit an advance copy of their statements at least two weeks before the public meeting. At its discretion, DOE may permit any person who cannot supply an advance copy of their statement to participate, if that person has made advance alternative arrangements with the Building Technologies Program. The request to give an oral presentation should ask for such alternative arrangements.

### 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 presentations by participants, and encourage all interested parties to share their views on issues affecting this rulemaking. Each participant will be allowed to make a prepared general statement (within DOE-determined time limits) prior to the discussion of specific topics. DOE will permit 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.

DOE will make the entire record of this proposed rulemaking, including the transcript from the public meeting, available for inspection at the U.S. Department of Energy, 6th Floor, 950 L'Enfant Plaza, SW., Washington, DC 20024, (202) 586-2945, between 9 a.m. and 4 p.m. Monday through Friday, except Federal holidays. The transcript will also be available on DOE's Web site at: [http://www1.eere.energy.gov/buildings/appliance\\_standards/commercial/refrigeration\\_equipment.html](http://www1.eere.energy.gov/buildings/appliance_standards/commercial/refrigeration_equipment.html).

### 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 at the beginning of this NOPR. Please submit comments, data, and other information electronically to *CRE-2010-TP-0034@ee.doe.gov*. Submit electronic comments in WordPerfect, Microsoft Word, PDF, or text (ASCII) file format and avoid the use of special characters or any form of encryption. Comments in electronic format should be identified by the docket number EERE-2010-BT-TP-0034 and/or RIN 1904-AC40 and wherever possible carry the electronic signature of the author. No telefacsimiles (faxes) will be accepted.

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 two copies: One copy of the document including all the information believed to be confidential and one copy of the document with the information believed to be confidential deleted. DOE will make its own determination as to 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) a date upon which such information might lose its confidential nature due to the passage of time; and (7) why disclosure of the information would be contrary to the public interest.

### 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:

1. DOE's conclusion that the proposed test procedure changes would not be unduly burdensome to conduct.

2. The burden to manufacturers associated with testing NSF Type II equipment at the standard test condition.

3. The burden to test other energy efficiency technologies other than those explicitly accounted for in this test procedure revision, namely night curtains and lighting occupancy sensors and scheduled control.



4. Updating the referenced industry test procedures to the most current version.

5. The proposal for the incorporation of night curtains into the DOE test procedure.

6. The proposed calculation method for treatment of lighting occupancy sensors and controls in the DOE test procedure for commercial refrigeration equipment. Specifically, DOE requests comment on the values assumed for the time period when lighting is off or reduced due to lighting occupancy sensors or controls and the factor used to scale the amount of heat produced by case lighting.

7. The provision for testing commercial refrigerators that cannot be tested at 38 °F at the lowest application product temperature.

8. The number of small businesses in the CRE market.

9. The certification 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 this NOPR.

**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.

Issued in Washington, DC, on November 10, 2010.

**Cathy Zoi,**

*Assistant Secretary, 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 431.62 is amended by adding in alphabetical order the definitions of “lighting control”, “lighting occupancy sensor”, “lowest application product temperature”, and “night curtain” to read as follows”:

**§ 431.62 Definitions concerning commercial refrigerators, freezers and refrigerator-freezers.**

\* \* \* \* \*

*Lighting control* means an electronic device that automatically adjusts the lighting in a display case at scheduled times throughout the day.

*Lighting occupancy sensor* means an electronic device that uses passive infrared, ultrasonic, or other motion-sensing technology to detect the presence of a customer or employee, allowing the lights within the equipment to be turned off or dimmed when no motion is detected in the sensor’s coverage area.

*Lowest application product temperature* means the lowest integrated average product temperature achievable and maintainable within ±2 °F for the duration of the test.

*Night curtain* means a device that is temporarily employed to decrease air exchange and heat transfer between the refrigerated case and the surrounding environment.

\* \* \* \* \*

3. Section 431.63 is amended by revising paragraphs (b)(1), (c) introductory text, and (c)(1) to read as follows:

**§ 431.63 Materials incorporated by reference.**

\* \* \* \* \*

(b) \* \* \*

(1) ANSI/AHAM HRF–1–2008, (“HRF–1–2008”), *Energy and Internal Volume of Refrigerating Appliances*, including errata issued November 17, 2009, IBR approved for § 431.64.

\* \* \* \* \*

(c) AHRI. Air-Conditioning, Heating and Refrigeration Institute, 2111 Wilson Blvd, Suite 500, Arlington, VA 22201, (703) 524–8800, [ahrinet.org](http://www.ahrinet.org), or [http://www.ahrinet.org/Content/StandardsProgram\\_20.aspx](http://www.ahrinet.org/Content/StandardsProgram_20.aspx).

(1) AHRI Standard 1200–2010 (“AHRI Standard 1200–2010”), *Performance Rating of Commercial Refrigerated Display Merchandisers and Storage Cabinets*, 2010, IBR approved for §§ 431.64 and 431.66.

\* \* \* \* \*

4. Section 431.64 is amended by revising paragraph (b) to read as follows:

**§ 431.64 Uniform test method for the measurement of energy consumption of commercial refrigerators, freezers, and refrigerator-freezers.**

\* \* \* \* \*

(b) *Testing and calculations.* Determine the daily energy consumption of each covered commercial refrigerator, freezer, or refrigerator-freezer by conducting the test procedure set forth in the Air-Conditioning and Refrigeration Institute (ARI) Standard 1200–2010, “Performance Rating of Commercial

Refrigerated Display Merchandisers and Storage Cabinets,” section 3, “Definitions,” section 4, “Test Requirements,” and section 7, “Symbols and Subscripts.” (Incorporated by reference, see § 431.63) For each commercial refrigerator, freezer, or refrigerator-freezer with a self-contained condensing unit, also use ARI Standard 1200–2010, section 6, “Rating Requirements for Self-contained Commercial Refrigerated Display Merchandisers and Storage Cabinets.” (Incorporated by reference, see § 431.63) For each commercial refrigerator, freezer, or refrigerator-freezer with a remote condensing unit, also use ARI Standard 1200–2006, section 5, “Rating Requirements for Remote Commercial Refrigerated Display Merchandisers and Storage Cabinets.” (Incorporated by reference, see § 431.63)

(1) For open display cases sold with night curtains installed, the night curtain shall be employed for 6 hours, 3 hours after the start of a defrost period. Upon the completion of the 6-hour period, the night curtain shall be raised until the completion of the 24-hour test period.

(2) For commercial refrigerators, freezers, and refrigerator-freezers sold with lighting occupancy sensors, scheduled lighting controls, or lighting occupancy sensors and scheduled lighting controls installed on the unit, the effect on daily energy consumption will be calculated using the variables that are defined as:

$CEC_A$  is the Alternate Compressor Energy Consumption (kilowatt-hours);

$LEC_{sc}$  is the lighting energy consumption of internal case lights with lighting occupancy sensors and controls deployed (kilowatt-hours);

$P_{li}$  is the rated power of lights when they are fully on (watts);

$P_{li(off)}$  is the power of lights when they are off (watts);

$P_{li(dim)}$  is the power of lights when they are dimmed (watts);

$TDEC_o$  is the total daily energy consumption with lights fully on, as measured by AHRI Standard 1200–2010 (kilowatt-hours);

$t_{dim}$  is the time period which the lights are dimmed due to the use of lighting occupancy sensors or scheduled controls (hours);

$t_{dim,controls}$  is the time case lighting is dimmed due to the use of lighting controls (hours);

$t_{dim,sensors}$  is the time case lighting is dimmed due to the use of lighting occupancy sensors (hours);

$t_l$  is the time period when lights would be on without lighting occupancy sensors or controls (24 hours);

$t_{off}$  is the time period which the lights are off due to the use of lighting occupancy sensors or scheduled controls (hours);

$t_{off,controls}$  is the time case lighting is off due to the use of lighting controls (hours);

$t_{off,sensors}$  is the time case lighting is off due to the use of lighting occupancy sensors (hours); and

$t_{sc}$  is the time period when lighting is fully on with lighting occupancy sensors and controls enabled (hours).

(i) For both self-contained and remote condensing commercial refrigerators, freezers, and refrigerator-freezers—

(A) Calculate the  $LEC_{sc}$  using the following equation:

$$LEC_{sc} = \frac{(P_{lh} \times t_{sc}) + (P_{lh(off)} \times t_{off}) + (P_{lh(dim)} \times t_{dim})}{1000}$$

In the equation  $t_{off}$  and  $t_{dim}$  are determined based on the sum of any contribution from lighting occupancy sensors and scheduled controls which dim or turn off lighting, respectively, as shown in the following equation:

$$t_{off} = t_{off,sensors} + t_{off,controls}$$

$$t_{dim} = t_{dim,sensors} + t_{dim,controls}$$

The sum of  $t_{sc}$ ,  $t_{off}$ , and  $t_{dim}$  should equal 24 hours and the total time period

during which the lights are off or dimmed shall not exceed 10.8 hours. The time the case lighting is off or dimmed due to scheduled lighting controls ( $t_{off,controls}$  or  $t_{dim,controls}$ , as applicable) will be 8 hours for those cases with lighting controls installed. The time the case lighting is off or dimmed due to lighting occupancy sensors ( $t_{off,sensors}$  or  $t_{dim,sensors}$ , as applicable) will be 10.8 hours for cases with lighting occupancy sensors

occupancy sensors and scheduled lighting controls installed, the time the case lighting is off or dimmed due to lighting occupancy sensors ( $t_{off,sensors}$  or  $t_{dim,sensors}$ , as applicable) will be 2.8 hours and the time the case lighting is off or dimmed due to scheduled lighting controls ( $t_{off,controls}$  or  $t_{dim,controls}$ , as applicable) will be 8 hours.

(B) Calculate the  $CEC_A$  using the following equation:

$$CEC_A = 0.75 \times \frac{3.4121 \times (LEC_{sc} - P_{lh} \times t_l / 1000)}{EER}$$

Where EER represents the energy efficiency ratio from Table 1 in AHRI Standard 1200–2010 (incorporated by reference, see § 431.63) for remote condensing equipment or the values shown in the following table for self-contained equipment:

**EER FOR SELF-CONTAINED COMMERCIAL REFRIGERATED DISPLAY MERCHANDISERS AND STORAGE CABINETS**

Operating temperature class	EER Btu/W
Medium .....	11.26
Low .....	7.14
Ice Cream .....	4.80

**Note:**

<sup>1</sup>EER values for operating temperature classes are calculated based on the average EER value of all equipment in that class which was analyzed as part of the previous (2009) rulemaking. This does not include equipment for which standards were set by Congress in EPACK 2005 (VCT, VCS, HCT, HCS, and SOC at M and L temperatures) or classes for which standards were set using extension multipliers in the 2009 rulemaking (VOP.SC.L, SVO.SC.L, VOP.SC.I, SVO.SC.I, HZO.SC.I, SOC.SC.I).

<sup>2</sup>These values only represent compressor EER and do not include condenser fan energy use.

(ii) For remote condensing commercial refrigerators, freezers, and refrigerator-freezers with lighting occupancy sensors, controls, or lighting occupancy sensors and controls installed, the revised compressor energy consumption ( $CEC_R$ ) shall be the  $CEC_A$  added to the compressor energy consumption (CEC) measured in AHRI Standard 1200–2010. (Incorporated by

reference, see § 431.63) The CDEC for the entire case shall be the sum of the  $CEC_R$  and  $LEC_{sc}$  (as calculated above) and the fan energy consumption (FEC), anti-condensate energy consumption (AEC), defrost energy consumption (DEC), and condensate evaporator pan energy consumption (PEC) (as measured in AHRI Standard 1200–2010).

(iii) For self-contained commercial refrigerators, freezers, and refrigerator-freezers with lighting occupancy sensors, controls, or lighting occupancy sensors and controls installed, the TDEC for the entire case shall be the sum of total daily energy consumption as measured by the AHRI Standard 1200–2010 (incorporated by reference, see § 431.63) test with the lights fully on ( $TDEC_o$ ) and  $CEC_A$ , less the decrease in lighting energy use due to occupancy sensors and controls, as shown in the following equation.

$$TDEC = TDEC_o + CEC_A - (P_{lh} \times t_l) / 1000 - LEC_{sc}$$

(3) Conduct the testing required in paragraphs (b)(1) and (2) of this section, and determine the daily energy consumption, at the applicable integrated average temperature in the

following table. The integrated average temperature is determined using the required test method. If a refrigerator or medium temperature unit is not able to be tested at the specified integrated

average temperature of 38 °F, the unit may be tested at the lowest application product temperature, as defined in § 431.61.

Category	Test procedure	Integrated average temperatures
(i) Refrigerator with Solid Door(s) .....	ARI Standard 1200–2010*	38 °F (±2 °F).
(ii) Refrigerator with Transparent Door(s) .....	ARI Standard 1200–2010*	38 °F (±2 °F).
(iii) Freezer with Solid Door(s) .....	ARI Standard 1200–2010*	0 °F (±2 °F).
(iv) Freezer with Transparent Door(s) .....	ARI Standard 1200–2010*	0 °F (±2 °F).
(v) Refrigerator-Freezer with Solid Door(s) .....	ARI Standard 1200–2010*	38 °F (±2 °F) for refrigerator compartment. 0 °F (±2 °F) for freezer compartment.
(vi) Commercial Refrigerator with a Self-Contained Condensing Unit Designed for Pull-Down Temperature Applications and Transparent Doors.	ARI Standard 1200–2010*	38 °F (±2 °F).
(vii) Ice-Cream Freezer .....	ARI Standard 1200–2010*	– 15.0 °F (±2 °F).
(viii) Commercial Refrigerator, Freezer, and Refrigerator-Freezer with a Self-Contained Condensing Unit and without Doors.	ARI Standard 1200–2010*	(A) For low temperature applications, the integrated average temperature of all test package averages shall be 0 °F (±2 °F). (B) For medium temperature applications, the integrated average temperature of all test package averages shall be 38.0 °F (±2 °F).
(ix) Commercial Refrigerator, Freezer, and Refrigerator-Freezer with a Remote Condensing Unit.	ARI Standard 1200–2010* ....	(A) For low temperature applications, the integrated average temperature of all test package averages shall be 0 °F (±2 °F). (B) For medium temperature applications, the integrated average temperature of all test package averages shall be 38.0 °F (±2 °F).

\* Incorporated by reference, *see* § 431.63.

(4) Determine the volume of each covered commercial refrigerator, freezer, or refrigerator-freezer using the methodology set forth in the AHAM HRF–1–2008, “Energy and Internal Volume of Refrigerating Appliances,” (incorporated by reference, *see* § 431.63) section 3.30, “Volume,” and sections 4.1 through 4.3, “Method for Computing Refrigerated Volume of Refrigerators, Refrigerator-Freezers, Wine Chillers and Freezers.”

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## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

#### 18 CFR Part 40

[Docket No. RM10–15–000]

#### Mandatory Reliability Standards for Interconnection Reliability Operating Limits

November 18, 2010.

**AGENCY:** Federal Energy Regulatory Commission.

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** Under section 215 of the Federal Power Act, the Federal Energy Regulatory Commission proposes to approve three new Interconnection Reliability Operations and Coordination Reliability Standards and seven revised Reliability Standards related to Emergency Preparedness and

Operations, Interconnection Reliability Operations and Coordination, and Transmission Operations. These proposed Reliability Standards were submitted to the Commission for approval by the North American Electric Reliability Corporation, which the Commission has certified as the Electric Reliability Organization responsible for developing and enforcing mandatory Reliability Standards. The proposed Reliability Standards were designed to prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits. The Commission also proposes to approve the addition of two new terms to the NERC Glossary of Terms. In addition, pursuant to section 215(d)(5) of the Federal Power Act, the Commission proposes to direct NERC to develop a modification to the proposed term “Real-time Assessment” to address a specific concern identified by the Commission. The Commission raises some concerns with regard to certain aspects of NERC’s proposals and, based on the responses from NERC and industry, may choose to direct certain modifications to the proposed new and revised Reliability Standard, as well as the new Glossary Terms, as discussed below.

**DATES:** Comments are due January 24, 2011.

**ADDRESSES:** You may submit comments, identified by docket number and in

accordance with the requirements posted on the Commission’s Web site, <http://www.ferc.gov>. Comments may be submitted by any of the following methods:

- *Agency Web site:* Documents created electronically using word processing software should be filed in native applications or print-to-PDF format, and not in a scanned format, at <http://www.ferc.gov/docs-filing/efiling.asp>.

- *Mail/Hand Delivery:* Commenters unable to file comments electronically must mail or hand-deliver an original copy of their comments to: Federal Energy Regulatory Commission, Secretary of the Commission, 888 First Street, NE., Washington, DC 20426. These requirements can be found on the Commission’s Web site, *see, e.g.,* the “Quick Reference Guide for Paper Submissions,” available at <http://www.ferc.gov/docs-filing/efiling.asp> or via phone from FERC Online Support at (202) 502–6652 or toll-free at 1–866–208–3676.

#### FOR FURTHER INFORMATION CONTACT:

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